



Hewlett Packard
Enterprise

HPE ProLiant DL325 Gen10 Plus Server Maintenance and Service Guide

Part Number: 30-2177FD95-008

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Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products with hazardous energy levels, and are familiar with the weight and stability precautions for rack installations.

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Illustrated parts catalog

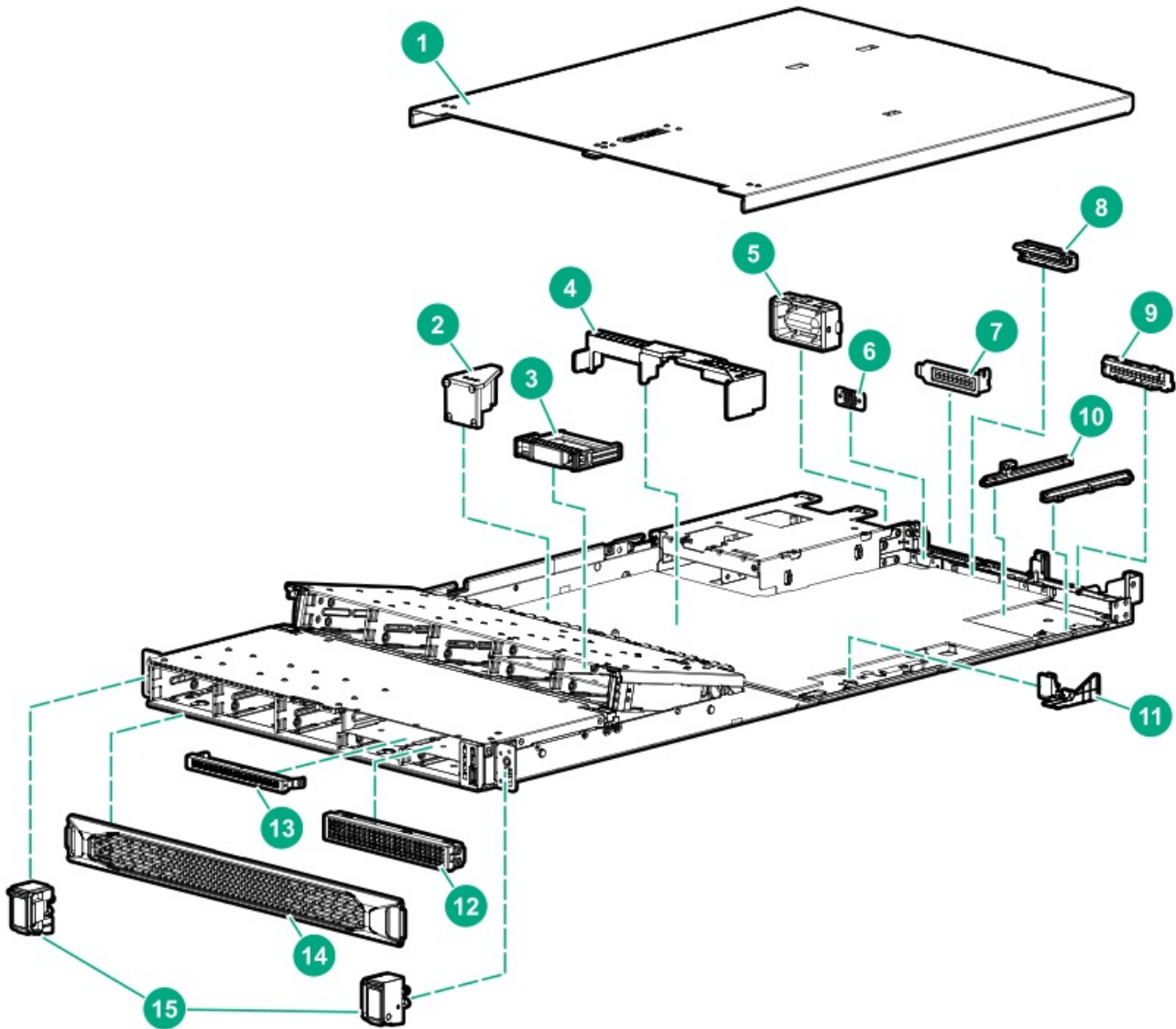
This chapter lists the hardware spare parts supported by the server.

- [Mechanical components](#)
- [System components](#)
- [Server options](#)

Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported spare parts information, see the Hewlett Packard Enterprise PartSurfer website:

<https://www.hpe.com/info/partssurfer>



Item	Description
1	Access panel spare part

Item	Description
2	Fan blank spare part
3	Drive blank spare part
4	Air baffle
5	Power supply blank spare part
6	Serial port blank
7	Low-profile riser blank spare part
8	NIC port blank
9	OCP NIC port blank
10	OCP rail spare part
11	Energy pack holder
12	2SFF drive cage blank
13	ODD blank
14	Bezel spare part
15	Chassis ear spare kit
16	Rail kit spare parts ¹
17	Cable management arm spare part ¹

¹ Not shown

Access panel spare part

Customer self repair: Mandatory

Description	Spare part number
Access panel	P22811-001

Chassis ear spare kit

Customer self repair: Mandatory

Description	Spare part number
<ul style="list-style-type: none"> Left ear Right ear 	P22816-001

Bezel spare part

Bezel spare part

Customer self repair: Mandatory

Description	Spare part number
1U bezel	P22815-001

Fan blank spare part

Customer self repair: Mandatory

Description	Spare part number
Fan blank	779105-001

Air baffle and energy pack holder spare kit

Customer self repair: Mandatory

Description	Spare part number
Air baffle (required only when the high performance fan is installed)	P23255-001
Energy pack holder	

Power supply blank spare part

Customer self repair: Mandatory

Description	Spare part number
Power supply blank	775423-001

Miscellaneous blank spare kit

Customer self repair: Mandatory



Description	Spare part number
OCP NIC port blank	P23254-001
Serial port blank	
NIC port blank	
ODD blank	
2SFF blank	

Drive blank spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF drive blank	670033-001
LFF reduced depth drive blank	809955-001

OCP rail spare part

Customer self repair: Mandatory

Description	Spare part number
OCP left and right rails	P23634-001

Rail kit spare parts

Customer self repair: Mandatory

Description	Spare part number
Rack mounting kit - 1075mm	P22817-001
Outer rail - 1200mm	P22818-001
Inner rail with screws - 1200mm	P22819-001

Cable management arm spare part

Customer self repair: Mandatory

Description	Spare part number
Cable management arm	P22820-001

Low-profile riser blank spare part

Customer self repair: Mandatory

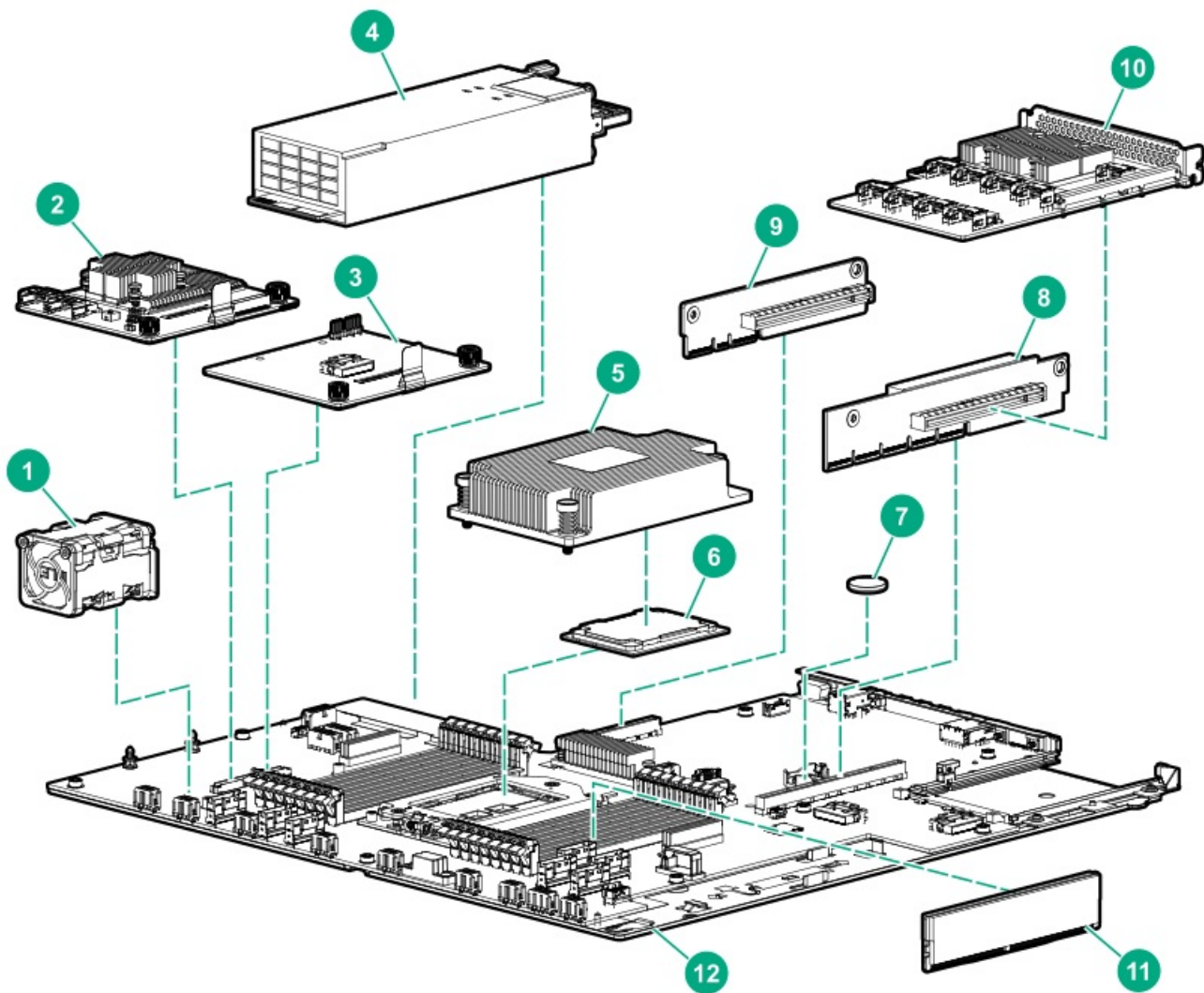
Description	Spare part number
Low-profile riser blank	875537-001

System components

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Item	Description
1	<u>Fan spare parts</u>
2	<u>Smart Array type-a modular controller (AROC)</u>
3	<u>1-port NVMe adapter</u>
4	<u>Power supply spare parts</u>
5	<u>Heatsink spare parts</u>
6	<u>Processor spare parts</u>
7	<u>System battery spare part</u>
8	<u>Primary riser board spare parts</u>
9	<u>Secondary riser board spare parts</u>
10	<u>HPE 12GB SAS Expander Card</u>
11	<u>DIMM spare parts</u>
12	<u>System board assembly spare part</u>
13	<u>HPE NS204i-p NVMe OS Boot Device spare parts ¹</u>
14	<u>Trusted Platform Module 2.0 Gen10 Plus spare part ¹</u>

¹ Not shown

Fan spare parts

Customer self repair: Mandatory

Description	Spare part number
Single rotor, standard fan	P22813-001
Dual rotor, high performance fan	P22814-001

DIMM spare parts

Customer self repair: Mandatory

Description	Spare part number
8 GB, single-rank x8 PC4-3200AA-R	P20499-001
16 GB, dual-rank x4 PC4-3200AA-R	P20500-001
16 GB, single-rank x8 PC4-3200AA-R	P20501-001
32 GB, dual-rank x4 PC4-3200AA-R	P20503-001
32 GB, dual-rank x8 PC4-3200AA-R	P20502-001
64 GB, quad-rank x4 PC4-3200AA-R	P20504-001
128 GB, quad-rank x4 PC4-3200AA-L	P20505-001
256 GB, quad-rank x4 PC4-3200AA-L	P20506-001

Power supply spare parts

Customer self repair: Mandatory

Description	Spare part number
HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	866729-001
HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply	866793-001
HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply	866727-001
HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	866730-001
HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply	866728-001
HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	863373-001

Heatsink spare parts

Customer self repair: **Optional**

Description	Spare part number
Standard heatsink	P06775-001
Performance heatsink (for higher than 150W TDP processors)	P22766-001

Processor spare parts

Customer self repair: **Optional**

Description	Spare part number
AMD EPYC 7232P processor, 3.10 GHz, 8C, 120 W	P22808-001
AMD EPYC 7262 processor, 3.20 GHz, 8C, 155 W	P17341-001
AMD EPYC 7272 processor, 2.90 GHz, 12C, 120 W	P23686-001
AMD EPYC 7282 processor, 2.80 GHz, 16C, 120 W	P23685-001
AMD EPYC 7302P processor, 3.00 GHz, 16C, 155 W	P17340-001
AMD EPYC 7352 processor, 2.30 GHz, 24C, 155 W	P21227-001
AMD EPYC 7402P processor, 2.80 GHz, 24C, 180 W	P17337-001
AMD EPYC 7452 processor, 2.35 GHz, 32C, 155 W	P17338-001
AMD EPYC 7502P processor, 2.50 GHz, 32C, 180 W	P17335-001
AMD EPYC 7532 processor, 2.40 GHz, 32C, 200 W	P25585-001
AMD EPYC 7542 processor, 2.90 GHz, 32C, 225 W	P23684-001
AMD EPYC 7552 processor, 2.20 GHz, 48C, 200 W	P21963-001
AMD EPYC 7642 processor, 2.40 GHz, 48C, 225 W	P23683-001
AMD EPYC 7662 processor, 2.00 GHz, 64C, 225 W	P25584-001
AMD EPYC 7702P processor, 2.00 GHz, 64C, 200 W	P17333-001
AMD EPYC 7742 processor, 2.25 GHz, 64C, 225 W	P23682-001
AMD EPYC 7F32 processor, 3.70 GHz, 8C, 180 W	P26982-001
AMD EPYC 7F52 processor, 3.50 GHz, 16C, 240 W	P26983-001
AMD EPYC 7F72 processor, 3.20 GHz, 24C, 240 W	P26984-001

Riser board spare parts

Customer self repair: **Optional**

Description	Spare part number
Primary x16x16 PCIe riser	P20155-001
Primary x16 2x8 slimline riser	P20157-001
Secondary x16 PCIe riser	P20156-001
Secondary 2x8 slimline riser	P20158-001

System battery spare part

Customer self repair: **Mandatory**

Description	Spare part number
System battery	319603-001

System board assembly spare part

Customer self repair: **Optional**

Description	Spare part number
System board with handle	P31452-001

Controller spare parts

Customer self repair: **Optional**

Description	Spare part number
HPE Smart Array E208i-a SR Gen10 Controller	871039-001
HPE Smart Array E208i-p SR Gen10 Controller	836266-001
HPE Smart Array E208e-p SR Gen10 Controller	836267-001
HPE Smart Array P408i-a SR Gen10 Controller	871040-001
HPE Smart Array P408i-p SR Gen10 Controller	836269-001
HPE Smart Array P408e-p SR Gen10 Controller	836270-001
HPE Smart Array P816i-a SR Gen10 Controller	836261-001

Description	Spare part number
HPE 12GB SAS Expander Card	876907-001
1-port NVMe adapter	P18719-001

HPE NS204i-p NVMe OS Boot Device spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE NS204i-p NVMe OS Boot Device	P14379-001
480 GB NVMe x4 RI M.2 22110 DS SSD	P24886-001

Trusted Platform Module 2.0 Gen10 Plus spare part

Customer self repair: **No**

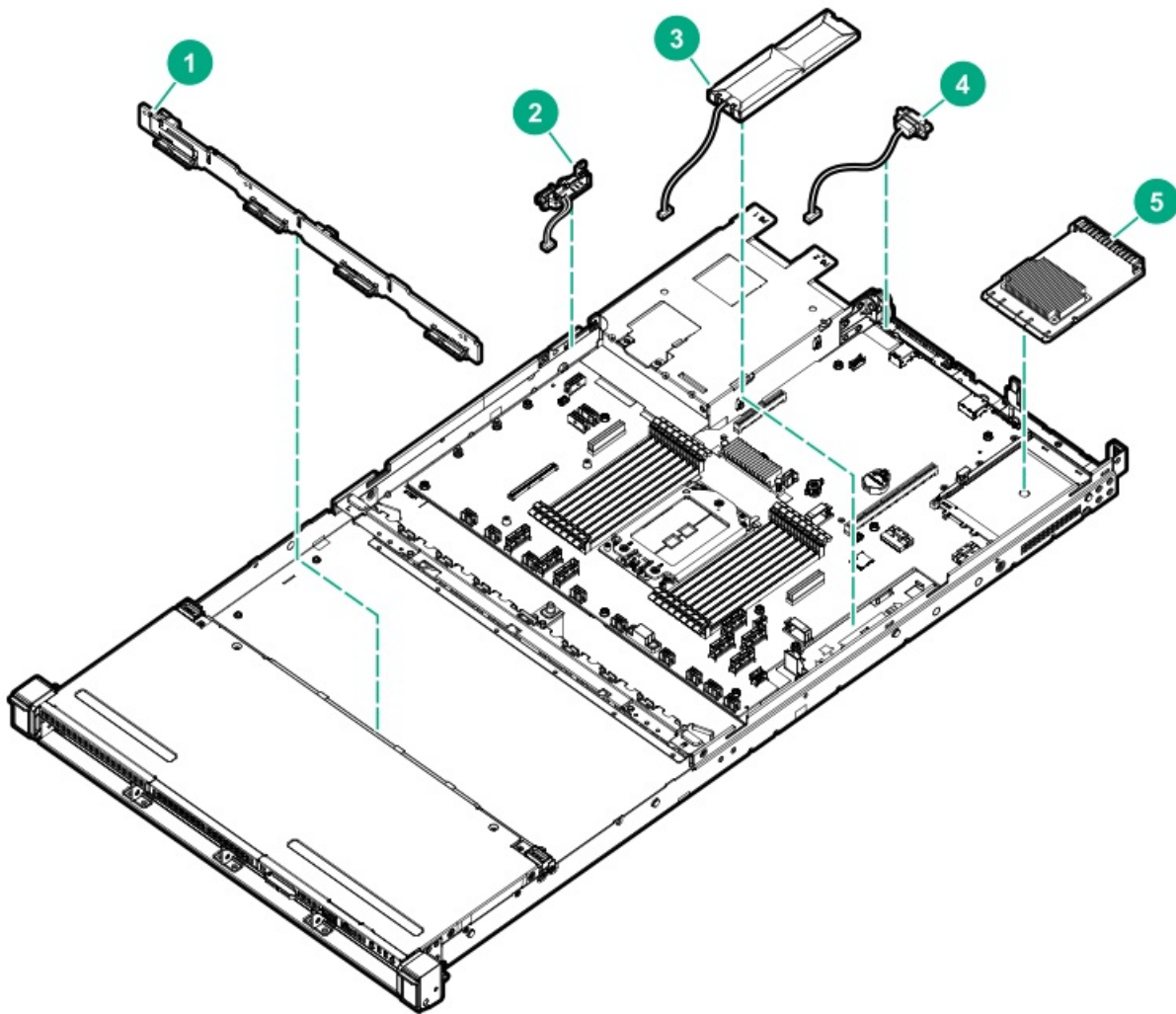
Description	Spare part number
Trusted Platform Module (TPM) 2.0 Gen10 Plus	P23625-001

For more information, see [HPE Trusted Platform Module 2.0 Gen10 Plus option](#).

Server options

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported spare parts information, see the Hewlett Packard Enterprise PartSurfer website:

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Item	Description
1	Drive backplane spare parts
2	Chassis intrusion detection switch spare part
3	HPE Smart Storage Battery spare part
4	Serial port cable spare part
5	OCP NIC 3.0 adapter spare parts
6	Smart I/O (Pensando Distributed Services Platform) spare part ¹
7	Thermal grease spare part ¹
7	Cable spare parts ¹

¹ Not shown

HPE Smart Storage Battery spare part

Customer self repair: Mandatory

Description	Spare part number
HPE Smart Storage Battery, 12 W	878641-001

Drive backplane spare parts

Customer self repair: Optional

Description	Spare part number
4LFF SAS/SATA drive backplane	P23681-001
8SFF SAS/SATA drive backplane	P20159-001
2SFF SAS/SATA drive backplane	775401-001
8SFF U.3 NVMe drive backplane	P25927-001
8SFF U.2 SCN NVMe drive backplane	P27332-001
2SFF U.3 NVMe drive backplane	P22810-001
2SFF U.2 SCN NVMe drive backplane	875080-001
2SFF dual uFF drive backplane and cage	875557-001

Chassis intrusion detection switch spare part

Customer self repair: Optional

Description	Spare part number
Chassis intrusion detection switch	P23687-001

Serial port cable spare part

Customer self repair: Mandatory

Description	Spare part number
Serial port cable	875571-001

OCP NIC 3.0 adapter spare parts



Customer self repair: Optional

Description	Spare part number
HPE 1GbE 4-port BASE-T I350-T4 OCP3 Adapter	P14487-001
HPE 10GbE 2-port SFP+ QL41132 OCP3 Adapter	P11586-001
HPE 10GbE 2-port BASE-T QL41132HQ OCP3 Adapter	P13345-001
HPE 10GbE 2-port SFP+ MCX4621A OCP3 Adapter	P12806-001
HPE 10/25GbE 2-port SFP28 MCX562A OCP3 Adapter	P12619-001
HPE 10/25GbE 2-port SFP28 QL41232 OCP3 Adapter	P11710-001

Smart I/O (Pensando Distributed Services Platform) spare part

Customer self repair: Mandatory

Description	Spare part number
Pensando Distributed Services Platform DSC-25 10/25G 2-port SFP28 card	P27682-001

Thermal grease spare part

Customer self repair: Mandatory

Description	Spare part number
2.0g thermal grease (1g per processor)	777298-001

Cable spare parts

Customer self repair: Optional

Description	Spare part number
LFF front I/O cable kit for short chassis	P22825-001
LFF front I/O cable kit for long chassis	P22826-001

Description	Spare part number
SFF front I/O cable kit for long chassis	P22827-001
SFF front I/O cable kit for short chassis	P22828-001
Outer signal cable kit for ODD SATA and 2SFF/uFF to system board, includes: <ul style="list-style-type: none"> • ODD/M.2 to system board • 2SFF/uFF (box 2) to system board 	P22821-001
8SFF SAS/SATA (box1) to system board cable	P22822-001
2SFF/uFF (box 2 and box 4) to system board cable	P22823-001
2NVMe (box 4) to 1-port NVMe adapter cable	P22824-001
Power cable kit for backplane to system board/backplane, includes: <ul style="list-style-type: none"> • Short chassis: 4LFF (box 1) • Short chassis: 4LFF (box 2) • Long chassis: 4LFF (box 1) • Long chassis: 4LFF (box 2) • Long chassis: 4LFF (box 3) • Long chassis: 8SAS/SATA (box 1) • 8SFF (box 1) to 2SFF (box 2) • 8SFF (box 3) to 2SFF (box 4) 	P23256-001
Short chassis: SFF to 12GB SAS Expander cable kit, includes: <ul style="list-style-type: none"> • 8SFF (box 1, port 1) to Expander • 8SFF (box 1, port 2) to Expander • 8SFF (box 3, port 1) to Expander • 8SFF (box 3, port 2) to Expander • 2SFF (box 2) to Expander • 2SFF (box 4) to Expander 	P23257-001
Smart Array type-a controller to 12GB SAS Expander cable kit, includes: <ul style="list-style-type: none"> • Smart Array controller port 1 to Expander • Smart Array controller port 2 to Expander 	P23258-001
LFF to Smart Array type-a controller cable kit, includes: <ul style="list-style-type: none"> • Short chassis: 4LFF (box 1) to Smart Array controller • Short chassis: 4LFF (box 2) to Smart Array controller • Long chassis: 4LFF (box 1) to Smart Array controller • Long chassis: 4LFF (box 2) to Smart Array controller • Long chassis: 4LFF (box 3) to Smart Array controller 	P23259-001
2NVMe to system board cable kit, includes: <ul style="list-style-type: none"> • 2NVMe (box2) to system board • 2NVMe (box4) to system board 	P23260-001
2SFF/uFF to Smart Array controller cable kit, includes: <ul style="list-style-type: none"> • 2SFF/uFF (box 2) to Smart Array type-a controller • 2SFF/uFF (box 2) to Smart Array type-p controller • 2SFF/uFF (box 4) to Smart Array type-p controller 	P23261-001
4LFF (box 1) to system board cable	P23262-001
SFF SAS/SATA to Smart Array type-a controller cable kit, includes: <ul style="list-style-type: none"> • 8SFF (box 1, port 1) to Smart Array controller • 8SFF (box 1, port 2) to Smart Array controller • 2SFF (box 2) to Smart Array controller • 8SFF (box 3, port 1) to Smart Array controller • 8SFF (box 3, port 2) to Smart Array controller 	P23263-001

Description	Spare part number
8SFF SAS/SATA to Smart Array type-p controller cable kit, includes: <ul style="list-style-type: none"> 8SFF (box 1, port 1) to Smart Array controller 8SFF (box 1, port 2) to Smart Array controller 	P23264-001
Short chassis and box 1: 8NVMe to system board cable kit, includes: <ul style="list-style-type: none"> 8NVMe (port 3) to system board 8NVMe (port 4) to system board 	P23265-001
Long chassis: SFF to 12GB SAS Expander cable kit, includes: <ul style="list-style-type: none"> 8SFF (box 1, port 1) to Expander 8SFF (box 1, port 2) to Expander 8SFF (box 3, port 1) to Expander 8SFF (box 3, port 2) to Expander 8SFF (box 5, port 1) to Expander 8SFF (box 5, port 2) to Expander 	P23266-001
Long chassis and box 1: 8NVMe to system board cable kit, includes: <ul style="list-style-type: none"> 8NVMe (port 1) to system board 8NVMe (port 2) to system board 	P23267-001
Long chassis and box 1: 8NVMe to system board cable kit, includes: <ul style="list-style-type: none"> 8NVMe (port 3) to system board 8NVMe (port 4) to system board 	P24516-001
Long chassis and box 3: 8NVMe to 1-port NVMe adapter/system board cable kit, includes: <ul style="list-style-type: none"> 8NVMe (port 1) to 1-port NVMe adapter 8NVMe (port 2) to system board 	P23268-001
Long chassis and box 3: 8NVMe to system board/primary slimline riser cable kit, includes: <ul style="list-style-type: none"> 8NVMe (port 3) to system board 8NVMe (port 4) to primary slimline riser 	P24517-001
Interior rear cage: 8NVMe to slimline riser cable kit, includes: <ul style="list-style-type: none"> Long chassis: 8NVMe (box 5, port 4) to system board Short chassis: 8NVMe (box 3, port 3) to system board Short chassis: 8NVMe (box 3, port 4) to system board 	P23269-001
8SFF power cable kit, includes: <ul style="list-style-type: none"> Short chassis: 8SAS/SATA box 1 Short chassis: 8SAS/SATA box 3 Long chassis: 8SAS/SATA box 3 Long chassis: 8SAS/SATA box 5 Short chassis: U.3 8NVMe box 1 Short chassis: U.3 8NVMe box 3 Long chassis: U.3 8NVMe box 1 Long chassis: U.3 8NVMe box 3 Long chassis: U.3 8NVMe box 5 	P23270-001
Short chassis and box 1: 8NVMe to system board cable kit <ul style="list-style-type: none"> 8NVMe (port 1) to system board 8NVMe (port 2) to system board 	P23317-001


Description	Spare part number
GPU power cable for slot 1 and OCP x16 cable kit, includes: <ul style="list-style-type: none"> Power cable for GPU 2x4p to 2x4p (high performance) for slot 1 Power cable for GPU 2x4p to 2x3p (low performance) for slot 1 OCP x16 cable from OCP x16 connector to port 6A on system board 20/24 NVMe: Y-cable from 8NVMe (box3/box5, port 1 and 4) to secondary slimline riser (port 2B) 	P23751-001
GPU power cable for GPU 2x3p to 2x3p (low performance) for slot 3	878326-001 ¹
Short chassis and U.2 8NVMe box 1: ports 1 and 2 to system board cable kit	P27333-001
Short chassis and U.2 8NVMe box 1: ports 3 and 4 to system board cable kit	P27334-001
Short chassis and U.2 8NVMe box 3: ports 1 and 2 to 1-port NVMe adapter and system board cable kit	P27335-001
Short chassis and U.2 8NVMe box 3: ports 3 and 4 to system board cable kit	P27336-001

¹ CSR is mandatory.

Customer self repair

Hewlett Packard Enterprise products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period Hewlett Packard Enterprise (or Hewlett Packard Enterprise service providers or service partners) identifies that the repair can be accomplished by the use of a CSR part, Hewlett Packard Enterprise will ship that part directly to you for replacement. There are two categories of CSR parts:

- Mandatory**—Parts for which customer self repair is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.
- Optional**—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that Hewlett Packard Enterprise replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.

 **NOTE:** Some Hewlett Packard Enterprise parts are not designed for customer self repair. In order to satisfy the customer warranty, Hewlett Packard Enterprise requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the Hewlett Packard Enterprise Support Center and a technician will help you over the telephone. Hewlett Packard Enterprise specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to Hewlett Packard Enterprise. In cases where it is required to return the defective part to Hewlett Packard Enterprise, you must ship the defective part back to Hewlett Packard Enterprise within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in Hewlett Packard Enterprise billing you for the replacement. With a customer self repair, Hewlett Packard Enterprise will pay all shipping and part return costs and determine the courier/carrier to be used.

For more information about the Hewlett Packard Enterprise CSR program, contact your local service provider.

Parts only warranty service

Your Hewlett Packard Enterprise Limited Warranty may include a parts only warranty service. Under the terms of parts only warranty

service, Hewlett Packard Enterprise will provide replacement parts free of charge.

For parts only warranty service, CSR part replacement is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.

Réparation par le client (CSR)

Les produits Hewlett Packard Enterprise comportent de nombreuses pièces CSR (Customer Self Repair = réparation par le client) afin de minimiser les délais de réparation et faciliter le remplacement des pièces défectueuses. Si pendant la période de diagnostic, Hewlett Packard Enterprise (ou ses partenaires ou mainteneurs agréés) détermine que la réparation peut être effectuée à l'aide d'une pièce CSR, Hewlett Packard Enterprise vous l'envoie directement. Il existe deux catégories de pièces CSR :

- **Obligatoire**—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
- **Facultatif**—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.

REMARQUE: Certaines pièces Hewlett Packard Enterprise ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, Hewlett Packard Enterprise exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention "Non" dans le Catalogue illustré.

Les pièces CSR sont livrées le jour ouvré suivant, dans la limite des stocks disponibles et selon votre situation géographique. Si votre situation géographique le permet et que vous demandez une livraison le jour même ou dans les 4 heures, celle-ci vous sera facturée. Pour toute assistance, appelez le Centre d'assistance Hewlett Packard Enterprise pour qu'un technicien vous aide au téléphone. Dans les documents envoyés avec la pièce de rechange CSR, Hewlett Packard Enterprise précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, Hewlett Packard Enterprise se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, Hewlett Packard Enterprise supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de Hewlett Packard Enterprise, contactez votre Mainteneur Agréé local.

Service de garantie "pièces seules"

Votre garantie limitée Hewlett Packard Enterprise peut inclure un service de garantie "pièces seules". Dans ce cas, les pièces de rechange fournies par Hewlett Packard Enterprise ne sont pas facturées.

Dans le cadre de ce service, la réparation des pièces CSR par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.

Riparazione da parte del cliente

Per abbreviare i tempi di riparazione e garantire una maggiore flessibilità nella sostituzione di parti difettose, i prodotti Hewlett Packard Enterprise sono realizzati con numerosi componenti che possono essere riparati direttamente dal cliente (CSR, Customer Self Repair). Se in fase di diagnostica Hewlett Packard Enterprise (o un centro di servizi o di assistenza Hewlett Packard Enterprise) identifica il guasto come riparabile mediante un ricambio CSR, Hewlett Packard Enterprise lo spedisce direttamente al cliente per la sostituzione. Vi sono due categorie di parti CSR:

- **Obbligatorie**—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad Hewlett Packard Enterprise, deve sostenere le spese di spedizione e di manodopera per il servizio.
- **Opzionali**—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad Hewlett Packard Enterprise, potrebbe dover sostenere spese aggiuntive a seconda del tipo di garanzia previsto per il prodotto.

NOTA: alcuni componenti Hewlett Packard Enterprise non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, Hewlett Packard Enterprise richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un "No" nel Catalogo illustrato dei componenti.

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico Hewlett Packard Enterprise. Nel materiale fornito con una parte di ricambio CSR, Hewlett Packard Enterprise specifica se il cliente deve restituire dei componenti. Qualora sia richiesta la resa ad Hewlett Packard Enterprise del componente difettoso, lo si deve spedire ad Hewlett Packard Enterprise entro un determinato periodo di tempo, generalmente cinque (5) giorni lavorativi. Il componente difettoso deve essere restituito con la documentazione associata nell'imballo di spedizione fornito. La mancata restituzione del componente può comportare la fatturazione del ricambio da parte di

Hewlett Packard Enterprise. Nel caso di riparazione da parte del cliente, Hewlett Packard Enterprise sostiene tutte le spese di spedizione e resa e sceglie il corriere/vettore da utilizzare.

Per ulteriori informazioni sul programma CSR di Hewlett Packard Enterprise, contattare il centro di assistenza di zona.

Servizio di garanzia per i soli componenti

La garanzia limitata Hewlett Packard Enterprise può includere un servizio di garanzia per i soli componenti. Nei termini di garanzia del servizio per i soli componenti, Hewlett Packard Enterprise fornirà gratuitamente le parti di ricambio.

Per il servizio di garanzia per i soli componenti è obbligatoria la formula CSR che prevede la riparazione da parte del cliente. Se il cliente invece richiede la sostituzione ad Hewlett Packard Enterprise dovrà sostenere le spese di spedizione e di manodopera per il servizio.

Customer Self Repair

Hewlett Packard Enterprise Produkte enthalten viele CSR-Teile (Customer Self Repair), um Reparaturzeiten zu minimieren und höhere Flexibilität beim Austausch defekter Bauteile zu ermöglichen. Wenn Hewlett Packard Enterprise (oder ein Hewlett Packard Enterprise Servicepartner) bei der Diagnose feststellt, dass das Produkt mithilfe eines CSR-Teils repariert werden kann, sendet Ihnen Hewlett Packard Enterprise dieses Bauteil zum Austausch direkt zu. CSR-Teile werden in zwei Kategorien unterteilt:

- **Zwingend**—Teile, für die das Customer Self Repair-Verfahren zwingend vorgegeben ist. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.
- **Optional**—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.

HINWEIS: Einige Hewlett Packard Enterprise Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem Hewlett Packard Enterprise Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

CSR-Teile werden abhängig von der Verfügbarkeit und vom Lieferziel am folgenden Geschäftstag geliefert. Für bestimmte Standorte ist eine Lieferung am selben Tag oder innerhalb von vier Stunden gegen einen Aufpreis verfügbar. Wenn Sie Hilfe benötigen, können Sie das Hewlett Packard Enterprise Support Center anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien von Hewlett Packard Enterprise, die mit einem CSR-Ersatzteil geliefert werden, können Sie entnehmen, ob das defekte Teil an Hewlett Packard Enterprise zurückgeschickt werden muss. Wenn es erforderlich ist, das defekte Teil an Hewlett Packard Enterprise zurückzuschicken, müssen Sie dies innerhalb eines vorgegebenen Zeitraums tun, in der Regel innerhalb von fünf (5) Geschäftstagen. Das defekte Teil muss mit der zugehörigen Dokumentation in der Verpackung zurückgeschickt werden, die im Lieferumfang enthalten ist. Wenn Sie das defekte Teil nicht zurückschicken, kann Hewlett Packard Enterprise Ihnen das Ersatzteil in Rechnung stellen. Im Falle von Customer Self Repair kommt Hewlett Packard Enterprise für alle Kosten für die Lieferung und Rücksendung auf und bestimmt den Kurier-/Frachtdienst.

Weitere Informationen über das Hewlett Packard Enterprise Customer Self Repair Programm erhalten Sie von Ihrem Servicepartner vor Ort.

Parts-only Warranty Service (Garantieservice ausschließlich für Teile)

Ihre Hewlett Packard Enterprise Garantie umfasst möglicherweise einen Parts-only Warranty Service (Garantieservice ausschließlich für Teile). Gemäß den Bestimmungen des Parts-only Warranty Service stellt Hewlett Packard Enterprise Ersatzteile kostenlos zur Verfügung.

Für den Parts-only Warranty Service ist das CSR-Verfahren zwingend vorgegeben. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.

Reparaciones del propio cliente

Los productos de Hewlett Packard Enterprise incluyen muchos componentes que el propio usuario puede reemplazar (Customer Self Repair, CSR) para minimizar el tiempo de reparación y ofrecer una mayor flexibilidad a la hora de realizar sustituciones de componentes defectuosos. Si, durante la fase de diagnóstico, Hewlett Packard Enterprise (o los proveedores o socios de servicio de Hewlett Packard Enterprise) identifica que una reparación puede llevarse a cabo mediante el uso de un componente CSR, Hewlett Packard Enterprise le enviará dicho componente directamente para que realice su sustitución. Los componentes CSR se clasifican en dos categorías:

- **Obligatorio**—Componentes cuya reparación por parte del usuario es obligatoria. Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

- **Opcional**—Componentes cuya reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que Hewlett Packard Enterprise realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.

NOTA: Algunos componentes de Hewlett Packard Enterprise no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, Hewlett Packard Enterprise pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

Según la disponibilidad y la situación geográfica, los componentes CSR se enviarán para que lleguen a su destino al siguiente día laborable. Si la situación geográfica lo permite, se puede solicitar la entrega en el mismo día o en cuatro horas con un coste adicional. Si precisa asistencia técnica, puede llamar al Centro de asistencia técnica de Hewlett Packard Enterprise y recibirá ayuda telefónica por parte de un técnico. Con el envío de materiales para la sustitución de componentes CSR, Hewlett Packard Enterprise especificará si los componentes defectuosos deberán devolverse a Hewlett Packard Enterprise. En aquellos casos en los que sea necesario devolver algún componente a Hewlett Packard Enterprise, deberá hacerlo en el periodo de tiempo especificado, normalmente cinco días laborables. Los componentes defectuosos deberán devolverse con toda la documentación relacionada y con el embalaje de envío. Si no enviara el componente defectuoso requerido, Hewlett Packard Enterprise podrá cobrarle por el de sustitución. En el caso de todas sustituciones que lleve a cabo el cliente, Hewlett Packard Enterprise se hará cargo de todos los gastos de envío y devolución de componentes y escogerá la empresa de transporte que se utilice para dicho servicio.

Para obtener más información acerca del programa de Reparaciones del propio cliente de Hewlett Packard Enterprise, póngase en contacto con su proveedor de servicios local.

Servicio de garantía exclusivo de componentes

La garantía limitada de Hewlett Packard Enterprise puede que incluya un servicio de garantía exclusivo de componentes. Según las condiciones de este servicio exclusivo de componentes, Hewlett Packard Enterprise le facilitará los componentes de repuesto sin cargo adicional alguno.

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

Customer Self Repair

Veel onderdelen in Hewlett Packard Enterprise producten zijn door de klant zelf te repareren, waardoor de reparatieduur tot een minimum beperkt kan blijven en de flexibiliteit in het vervangen van defecte onderdelen groter is. Deze onderdelen worden CSR-onderdelen (Customer Self Repair) genoemd. Als Hewlett Packard Enterprise (of een Hewlett Packard Enterprise Service Partner) bij de diagnose vaststelt dat de reparatie kan worden uitgevoerd met een CSR-onderdeel, verzendt Hewlett Packard Enterprise dat onderdeel rechtstreeks naar u, zodat u het defecte onderdeel daarmee kunt vervangen. Er zijn twee categorieën CSR-onderdelen:

- **Verplicht**—Onderdelen waarvoor reparatie door de klant verplicht is. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.
- **Optioneel**—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.

OPMERKING: Sommige Hewlett Packard Enterprise onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantiev voorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie is gewenst, belt u het Hewlett Packard Enterprise Support Center om via de telefoon ondersteuning van een technicus te ontvangen. Hewlett Packard Enterprise vermeldt in de documentatie bij het vervangende CSR-onderdeel of het defecte onderdeel aan Hewlett Packard Enterprise moet worden geretourneerd. Als het defecte onderdeel aan Hewlett Packard Enterprise moet worden teruggezonden, moet u het defecte onderdeel binnen een bepaalde periode, gewoonlijk vijf (5) werkdagen, retourneren aan Hewlett Packard Enterprise. Het defecte onderdeel moet met de bijbehorende documentatie worden geretourneerd in het meegeleverde verpakkingsmateriaal. Als u het defecte onderdeel niet terugzendt, kan Hewlett Packard Enterprise u voor het vervangende onderdeel kosten in rekening brengen. Bij reparatie door de klant betaalt Hewlett Packard Enterprise alle verzendkosten voor het vervangende en geretourneerde onderdeel en kiest Hewlett Packard Enterprise zelf welke koerier/transportonderneming hiervoor wordt gebruikt.

Neem contact op met een Service Partner voor meer informatie over het Customer Self Repair programma van Hewlett Packard Enterprise.

Garantieservice "Parts Only"

Het is mogelijk dat de Hewlett Packard Enterprise garantie alleen de garantieservice "Parts Only" omvat. Volgens de bepalingen van de

Parts Only garantíeservice zal Hewlett Packard Enterprise kosteloos vervangende onderdelen ter beschikking stellen.

Voor de Parts Only garantíeservice is vervanging door CSR-onderdelen verplicht. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht

Reparo feito pelo cliente

Os produtos da Hewlett Packard Enterprise são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a Hewlett Packard Enterprise (ou fornecedores/parceiros da Hewlett Packard Enterprise) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a Hewlett Packard Enterprise enviará a peça diretamente ao cliente. Há duas categorias de peças CSR:

- **Obrigatória**—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
- **Opcional**—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a Hewlett Packard Enterprise as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

OBSERVAÇÃO: Algumas peças da Hewlett Packard Enterprise não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a Hewlett Packard Enterprise exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

Conforme a disponibilidade e o local geográfico, as peças CSR serão enviadas no primeiro dia útil após o pedido. Onde as condições geográficas permitirem, a entrega no mesmo dia ou em quatro horas pode ser feita mediante uma taxa adicional. Se precisar de auxílio, entre em contato com o Centro de suporte técnico da Hewlett Packard Enterprise para que um técnico o ajude por telefone. A Hewlett Packard Enterprise especifica nos materiais fornecidos com a peça CSR de reposição se a peça com defeito deve ser devolvida à Hewlett Packard Enterprise. Nos casos em que isso for necessário, é preciso enviar a peça com defeito à Hewlett Packard Enterprise, você deverá enviar a peça com defeito de volta para a Hewlett Packard Enterprise dentro do período de tempo definido, normalmente em 5 (cinco) dias úteis. A peça com defeito deve ser enviada com a documentação correspondente no material de transporte fornecido. Caso não o faça, a Hewlett Packard Enterprise poderá cobrar a reposição. Para as peças de reparo feito pelo cliente, a Hewlett Packard Enterprise paga todas as despesas de transporte e de devolução da peça e determina a transportadora/serviço postal a ser utilizado.

Para obter mais informações sobre o programa de reparo feito pelo cliente da Hewlett Packard Enterprise, entre em contato com o fornecedor de serviços local.

Serviço de garantia apenas para peças

A garantia limitada da Hewlett Packard Enterprise pode incluir um serviço de garantia apenas para peças. Segundo os termos do serviço de garantia apenas para peças, a Hewlett Packard Enterprise fornece as peças de reposição sem cobrar nenhuma taxa.

No caso desse serviço, a substituição de peças CSR é obrigatória. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

カスタマーセルフリペア

修理時間を短縮し、故障部品の交換における高い柔軟性を確保するために、Hewlett Packard Enterprise製品には多数のカスタマーセルフリペア（CSR）部品があります。診断の際に、CSR部品を使用すれば修理ができるとHewlett Packard Enterprise（Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店）が判断した場合、Hewlett Packard Enterpriseはその部品を直接、お客様に発送し、お客様に交換していただきます。CSR部品には以下の2種類があります。

- **必須** - カスタマーセルフリペアが必須の部品。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。
- **任意** - カスタマーセルフリペアが任意である部品。この部品もカスタマーセルフリペア用です。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、別途費用を負担していただくことなく保証サービスを受けることができます。

注：Hewlett Packard Enterprise製品の一部の部品は、カスタマーセルフリペアの対象外です。製品の保証を継続するためには、Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店による交換作業が必須となります。部品カタログには、当該部品がカスタマーセルフリペア除外品である旨が記載されています。

部品供給が可能な場合、地域によっては、CSR部品を翌営業日に届くように発送します。また、地域によっては、追加費用を負担いただくことにより同日または4時間以内に届くように発送することも可能な場合があります。サポートが必要なときは、Hewlett Packard Enterpriseサポートセンターに電話していただければ、技術者が電話でアドバイスします。交換用のCSR部品または同梱物には、故障部品をHewlett Packard Enterpriseに返送する必要があるかどうかが表示されています。故障部品をHewlett Packard Enterpriseに返送する必要がある場合は、指定期限内（通常は5営業日以内）に故障部品をHewlett Packard Enterpriseに返送してください。故障部品を返送する場合は、届いた時の梱包箱に関連書類とともに入れてください。故障部品を返送しない場合、Hewlett Packard Enterpriseから部品費用が請求されます。カスタマーセルフリペアの際には、Hewlett Packard Enterpriseは送料および部品返送費を全額負担し、使用する宅配便会社や運送会社を指定します。

部品のみ保証サービス

Hewlett Packard Enterprise保証サービスには、部品のみ保証サービスが適用される場合があります。このサービスでは、交換部品は無償で提供されます。

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須となります。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様のご負担となります。

客户自行维修

Hewlett Packard Enterprise 产品提供许多客户自行维修 (CSR) 部件，以尽可能缩短维修时间和在更换缺陷部件方面提供更大的灵活性。如果在诊断期间 Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服务提供商或服务合作伙伴) 确定可以通过使用 CSR 部件完成维修，Hewlett Packard Enterprise 将直接把该部件发送给您进行更换。有两类 CSR 部件：

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。
- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 Hewlett Packard Enterprise 为您更换这些部件，则根据为您的产品指定的保修服务类型，Hewlett Packard Enterprise 可能收取或不再收取任何附加费用。

注：某些 Hewlett Packard Enterprise 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，Hewlett Packard Enterprise 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

CSR 部件将在下一个工作日发运（取决于备货情况和允许的地理范围）。在允许的地理范围内，可在当天或四小时内发运，但要收取额外费用。如果需要帮助，您可以致电 Hewlett Packard Enterprise 技术支持中心，将会有技术人员通过电话为您提供帮助。Hewlett Packard Enterprise 会在随更换的 CSR 部件发运的材料中指明是否必须将有缺陷的部件返还给 Hewlett Packard Enterprise。如果要求您将有缺陷的部件返还给 Hewlett Packard Enterprise，那么您必须在规定的期限内（通常是五 (5) 个工作日）将缺陷部件发给 Hewlett Packard Enterprise。有缺陷的部件必须随所提供的发运材料中的相关文件一起返还。如果未能送还有缺陷的部件，Hewlett Packard Enterprise 可能会要求您支付更换费用。客户自行维修时，Hewlett Packard Enterprise 将承担所有相关运输和部件返回费用，并指定快递商/承运商。

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。

仅部件保修服务

您的 Hewlett Packard Enterprise 有限保修服务可能涉及仅部件保修服务。根据仅部件保修服务条款的规定，Hewlett Packard Enterprise 将免费提供更换的部件。

仅部件保修服务要求进行 CSR 部件更换。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。

客戶自行維修

Hewlett Packard Enterprise 產品設計了許多「客戶自行維修」(CSR) 的零件以減少維修時間，並且使得更換瑕疵零件時能有更大的彈性。如果在診斷期間，Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服務供應商或維修夥伴) 辨認出此項維修工作可以藉由使用 CSR 零件來完成，則 Hewlett Packard Enterprise 將直接寄送該零件給您作更換。CSR 零件分為兩種類別：

- **強制的** — 客戶自行維修所使用的零件是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。
- **選購的** — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 Hewlett Packard Enterprise 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

備註：某些 Hewlett Packard Enterprise 零件沒有消費者可自行維修的設計。為符合客戶保固，Hewlett Packard Enterprise 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

基於材料取得及環境允許的情況下，CSR 零件將於下一個工作日以快遞寄送。在環境的允許下當天或四小時內送達，則可能需要額外的費用。若您需要協助，可致電 Hewlett Packard Enterprise 支援中心，會有一位技術人員透過電話來協助您。不論損壞的零件是否必須退回，Hewlett Packard Enterprise 皆會在與 CSR 替換零件一起運送的材料中註明。若要將損壞的零件退回 Hewlett Packard Enterprise，您必須在指定的一段時間內 (通常為五 (5) 個工作天)，將損壞的零件寄回 Hewlett Packard Enterprise。損壞的零件必須與寄送資料中隨附的相關技術文件一併退還。如果無法退還損壞的零件，Hewlett Packard Enterprise 可能要向您收取替換費用。針對客戶自行維修情形，Hewlett Packard Enterprise 將負責所有運費及零件退還費用，並指定使用何家快遞/貨運公司。

如需 Hewlett Packard Enterprise 的 CSR 方案詳細資訊，請連絡您當地的服務供應商。

僅限零件的保固服務

您的「Hewlett Packard Enterprise 有限保固」可能包含僅限零件的保固服務。在僅限零件的保固服務情況下，Hewlett Packard Enterprise 將免費提供替換零件。

針對僅限零件的保固服務，CSR 零件替換是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。

고객 셀프 수리

Hewlett Packard Enterprise 제품은 수리 시간을 최소화하고 결함이 있는 부품 교체 시 더욱 융통성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 Hewlett Packard Enterprise(또는 Hewlett Packard Enterprise 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 Hewlett Packard Enterprise는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- **필수** - 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.
- **선택 사항** - 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

참고: 일부 Hewlett Packard Enterprise 제품은 고객 셀프 수리가 불가능하도록 설계되었습니다. Hewlett Packard Enterprise는 만족스러운 고객 보증을 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다. 이러한 부품들은 Illustrated Parts Catalog에 "No"라고 표시되어 있습니다.

CSR 부품은 재고 상태와 지리적 조건이 허용하는 경우 다음 영업일 납품이 가능하도록 배송이 이루어집니다. 지리적 조건이 허용하는 경우 추가 비용이 청구되는 조건으로 당일 또는 4시간 배송이 가능할 수도 있습니다. 도움이 필요하시면 Hewlett Packard Enterprise Support Center로 전화하십시오. 전문 기술자가 전화로 도움을 줄 것입니다. Hewlett Packard Enterprise는 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는지 여부를 CSR 교체 부품과 함께 배송된 자료에 지정합니다. 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는 경우에는 지정된 기간 내(통상 영업일 기준 5일)에 Hewlett Packard Enterprise로 반환해야 합니다. 이때 결함이 발생한 부품은 제공된 포장 재료에 넣어 관련 설명서와 함께 반환해야 합니다. 결함이 발생한 부품을 반환하지 않는 경우 Hewlett Packard Enterprise가 교체 부품에 대해 비용을 청구할 수 있습니다. 고객 셀프 수리의 경우, Hewlett Packard Enterprise는 모든 운송 및 부품 반환 비용을 부담하며 이용할 운송업체 및 택배 서비스를 결정합니다.

Hewlett Packard Enterprise CSR 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오.

부품 제공 보증 서비스

Hewlett Packard Enterprise 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 Hewlett Packard Enterprise는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

부품 제공 보증 서비스 제공 시 CSR 부품 교체는 의무 사항입니다. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

Removal and replacement procedures

Required tools

Some procedures may require the following tools:

- T-25 Torx screwdriver (for screws located inside the front panel quick-release ears)
- T-10/T-15/T-20 Torx screwdriver
- Flathead screwdriver (for replacing the system battery)

Safety considerations

Before performing service procedures, review all the safety information.

- [Electrostatic discharge](#)

- [Symbols on equipment](#)
- [Rack warnings and cautions](#)
- [Server warnings and cautions](#)

Electrostatic discharge

Be aware of the precautions you must follow when setting up the system or handling components. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the system or component.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:
 - Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm \pm 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
 - Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
 - Use conductive field service tools.
 - Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

For more information on static electricity or assistance with product installation, contact an authorized reseller.

Symbols on equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions:



This symbol in conjunction with any of the following symbols indicates the presence of a potential hazard. The potential for injury exists if warnings are not observed. Consult your documentation for specific details.

該符號與以下任意符號組合使用，指示存在潛在的危險。如果不遵守警告，可能會造成人身傷害。詳細信息請參閱相關文檔。



This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.

 **WARNING:**

To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.

此符號表明存在危險電路或觸電的危險。所有維修工作應由具有相關資格的人員來完成。

警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。所有維護、升級和維修工作都應由具有相關資格的人員來完成。



This symbol indicates the presence of electric shock hazards. The area contains no user or field-serviceable parts. Do not open for any reason.

⚠ WARNING:

To reduce risk of injury from electric shock hazards, do not open this enclosure.

此符號表明存在觸電的危險。在這一區域內沒有用戶可以現場維修的部件。一定不要打開。警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。



This symbol on an RJ-45 receptacle indicates a Network Interface Connection.

⚠ WARNING:

To reduce risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

RJ-45 插孔上的該符號指示網絡接口連接。

警告：為了減少觸電、火災或設備損壞的危險，不要將電話或電信連接設備插入此插孔。



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

⚠ WARNING:

To reduce the risk of injury from a hot component, allow the surface to cool before touching.

此符號表明表面或組件過熱。如果觸摸此表面，可能會造成人身傷害。警告：為了減少因組件過熱而造成人身傷害的危險，應等到表面降溫後再觸摸。

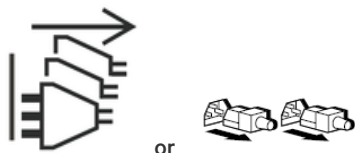


This symbol indicates the presence of a moving fan blade. If the spinning blades are contacted, the potential for injury exists.

⚠ WARNING:

Hazardous moving parts. Keep away from moving fan blades. To reduce the risk of injury from a hot component, allow the surface to cool before touching.

此符號表明存在運動風扇葉片的危險。如果觸摸旋轉葉片，可能會造成人身傷害。警告：危險的運動部件。請遠離運動風扇刀片。為減少被高溫組件燙傷的危險，應在表面冷卻之後再接觸。



These symbols on power supplies or systems indicate that the equipment is supplied by multiple sources of power.

⚠ WARNING:

To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

電源或系統上的這些符號表明設備由多個電源供電。

警告：為了減少觸電造成人身傷害的危險，應拔下所有電源線插頭，完全斷開系統的電源。



Weight in kg.

Weight in lb.

This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.

⚠ WARNING:

To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

此符號表明組件的重量超出了建議值，一個人無法安全取放。

警告：為了減少人身傷害或設備損壞的危險，應遵守當地有關人工取放物品的職業保健與安全規定及準則。



A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

手指或其它導體所釋放的靜電可能損壞主板或其它對靜電敏感的設備。為防止發生損壞，請遵守防靜電預防措施。



This symbol indicates the presence of a laser device in the product that may exceed Class 1 limits. Refer to the product documentation for more information.

此符號表明在可能會超出 1 類限制的產品中存在激光設備。有關詳細信息，請參閱產品文檔。



This symbol indicates the presence of moving parts inside the product that may present a pinch point if improperly contacted.

⚠ WARNING:

Hazardous moving parts. Do not insert any tools or any part of your body into the product while it is operating or in any openings.

Rack warnings and cautions

WARNING:

When all components are removed, the server weighs 26.0 kg (57.32 lb). When all components are installed, the server can weigh up to 32.0 kg (70.55 lb).

Before configuring your rack solution, be sure to check the rack manufacturer weight limits and specifications. Failure to do so can result in physical injury or damage to the equipment and the facility.

WARNING:

The server is heavy. To reduce the risk of personal injury or damage to the equipment, do the following:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
 - Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails. The server weighs more than 26.0 kg (57.32 lb), so at least two people must lift the server into the together. An additional person may be required to help align the server if the server is installed higher than chest level.
 - Use caution when installing the server in or removing the server from the .
 - Adequately stabilized the before extending a component outside the . Extend only one component at a time. A may become unstable if more than one component is extended.
 - Do not stack anything on top of rail-mounted component or use it as a work surface when extended from the rack.
-

WARNING:

To reduce the risk of personal injury or damage to the equipment, be sure that:

- The rack has anti-tip measures in place. Such measures include floor-bolting, anti-tip feet, ballast, or a combination as specified by the rack manufacturer and applicable codes.
 - The leveling jacks (feet) are extended to the floor.
 - The full weight of the rack rests on the leveling jacks (feet).
 - The stabilizing feet are attached to the rack if it is a single-rack installation.
 - The racks are coupled together in multiple rack installations.
-

WARNING:

To reduce the risk of personal injury or equipment damage when unloading a rack:

- At least two people are needed to safely unload the rack from the pallet. An empty 42U rack can weigh as much as 115 kg (253 lb), can stand more than 2.1 m (7 ft) tall, and might become unstable when being moved on its casters.
 - Never stand in front of the rack when it is rolling down the ramp from the pallet. Always handle the rack from both sides.
-

CAUTION:

Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

CAUTION:

Before installing the server in a , be sure to properly scope the limitations of the . Before proceeding with the installation, consider the following:

- You must fully understand the static and dynamic load carrying capacity of the and be sure that it can accommodate the weight of the server.
- Be sure sufficient clearance exists for cabling, installation and removal of the server, and movement of the rack doors.

Server warnings and cautions

⚠ WARNING:

To reduce the risk of personal injury, electric shock, or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the Power On/Standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

⚠ WARNING:

To reduce the risk of fire or burns after removing the energy pack:

- Do not disassemble, crush, or puncture the energy pack.
- Do not short external contacts.
- Do not dispose of the energy pack in fire or water.
- Do not expose the energy pack to low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not expose the energy pack to temperatures higher than 60°C (140°F).

After power is disconnected, battery voltage might still be present for 1s to 160s.

⚠ CAUTION:

Protect the server from power fluctuations and temporary interruptions with a regulating UPS. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the server in operation during a power failure.

⚠ CAUTION:

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

⚠ CAUTION:

To avoid data loss, Hewlett Packard Enterprise recommends that you back up all server data before installing or removing a hardware option, or performing a server maintenance or troubleshooting procedure.

⚠ CAUTION: Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

Preparation procedures

To access some components and perform certain service procedures, you must perform one or more of the following procedures:

Procedure

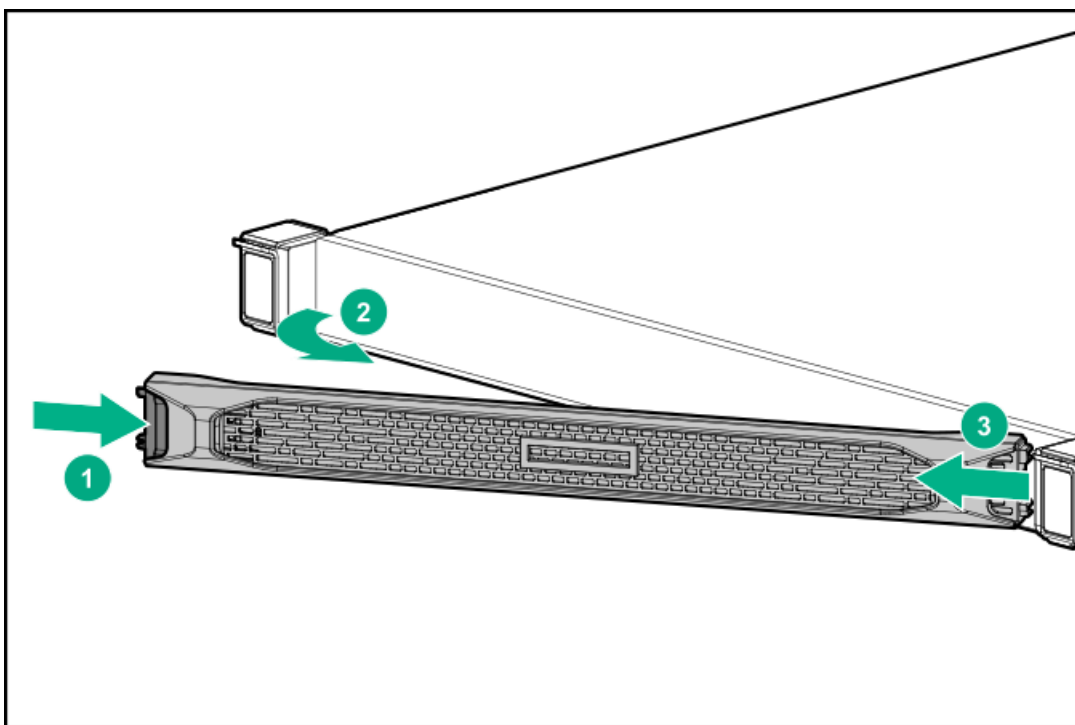
- If installed, remove the bezel.
- Power down the server.
- Access the product rear panel.
- Extend the server from the rack.
- Remove the server from the rack.

- [Remove the access panel.](#)
- [Remove the air baffle.](#)

Removing the bezel

Procedure

1. Remove the Kensington security lock.
2. Remove the bezel.
 - a. Press the latch.
 - b. Open the bezel.
 - c. Detach the bezel from the latch ear.



To replace the component, reverse the removal procedure.

Powering down the server

i IMPORTANT:

When the server is in standby mode, auxiliary power is still being provided to the system.

Prerequisites

Before powering down the server for any upgrade or maintenance procedures, perform a backup of critical server data and programs.

Procedure

1. [Remove the bezel.](#)
2. To power down the server, use one of the following methods.
 - Press and release the Power On/Standby button.

This method initiates a controlled shutdown of applications and the OS before the server enters standby mode.

- Press and hold the Power On/Standby button for more than 4 seconds to force the server to enter standby mode.

This method forces the server to enter standby mode without properly exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.

- Use a virtual power button selection through iLO 5.

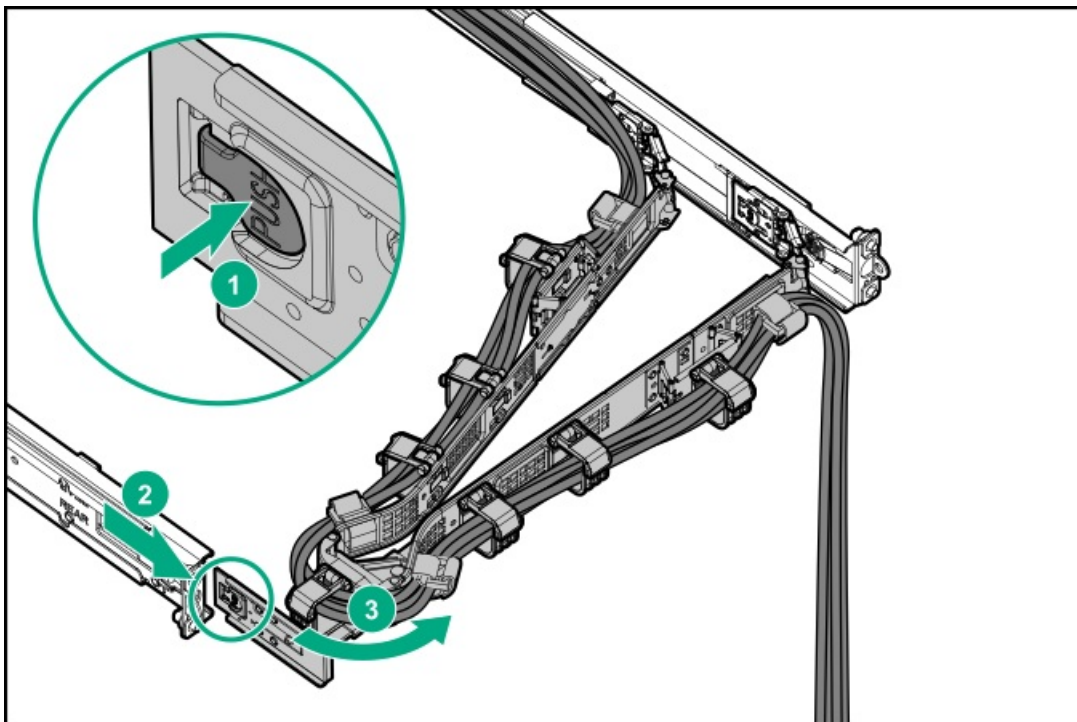
This method initiates a controlled remote shutdown of applications and the OS before the server enters standby mode.

3. Verify that the server is in standby mode by observing that the system power LED is amber.

Accessing the product rear panel

Procedure

If installed, release the cable management arm and then swing the arm away from the rack.



Extending the server from the rack

To perform this procedure, you will need a T-25 screwdriver.

⚠ WARNING:

To reduce the risk of personal injury or equipment damage, be sure that the rack is adequately stabilized before extending a component from the rack.

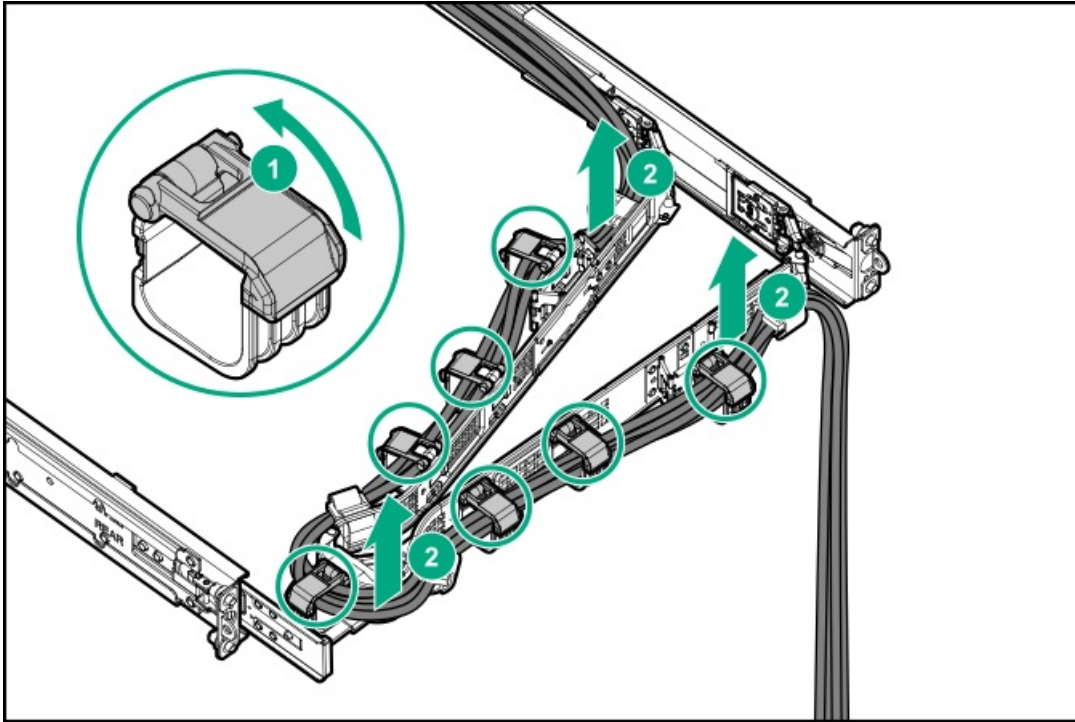
Procedure

1. To fully extend the long chassis server with the cable management arm, do the following:

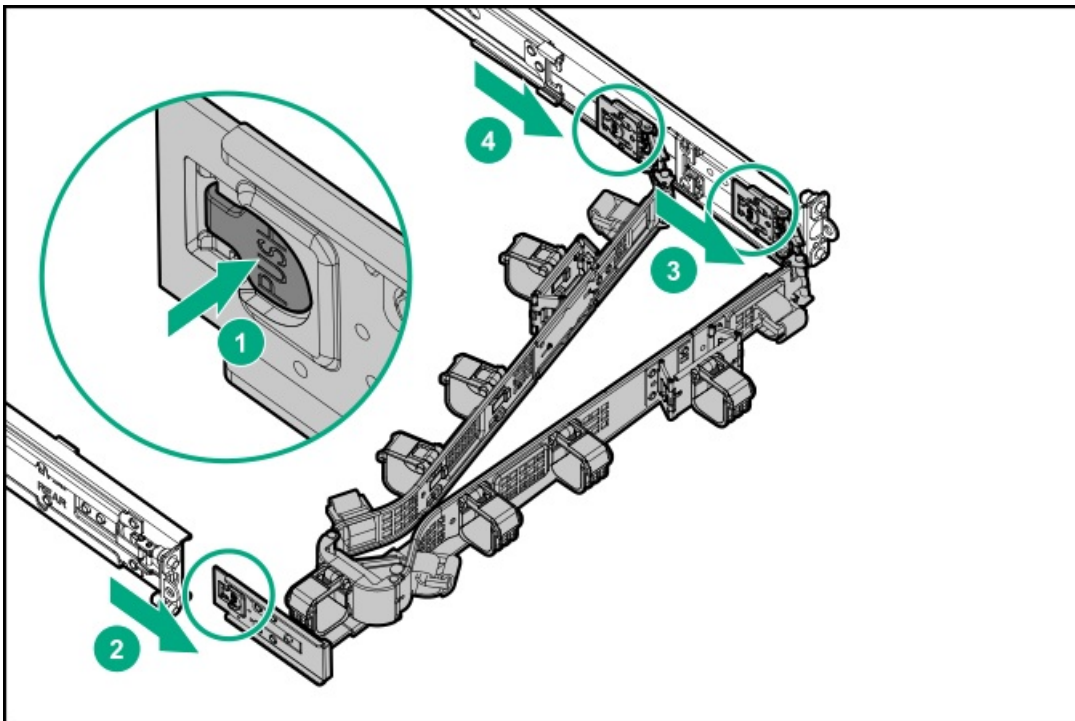
📄 NOTE:

If the cable management arm option is installed for a short chassis server, you can extend the server without powering down the server or disconnecting peripheral cables and power cords.

- a. If installed, remove the bezel.
- b. Power down the server.
- c. Disconnect all peripheral cables and power cords.
- d. Remove the cables from the cable management arm.

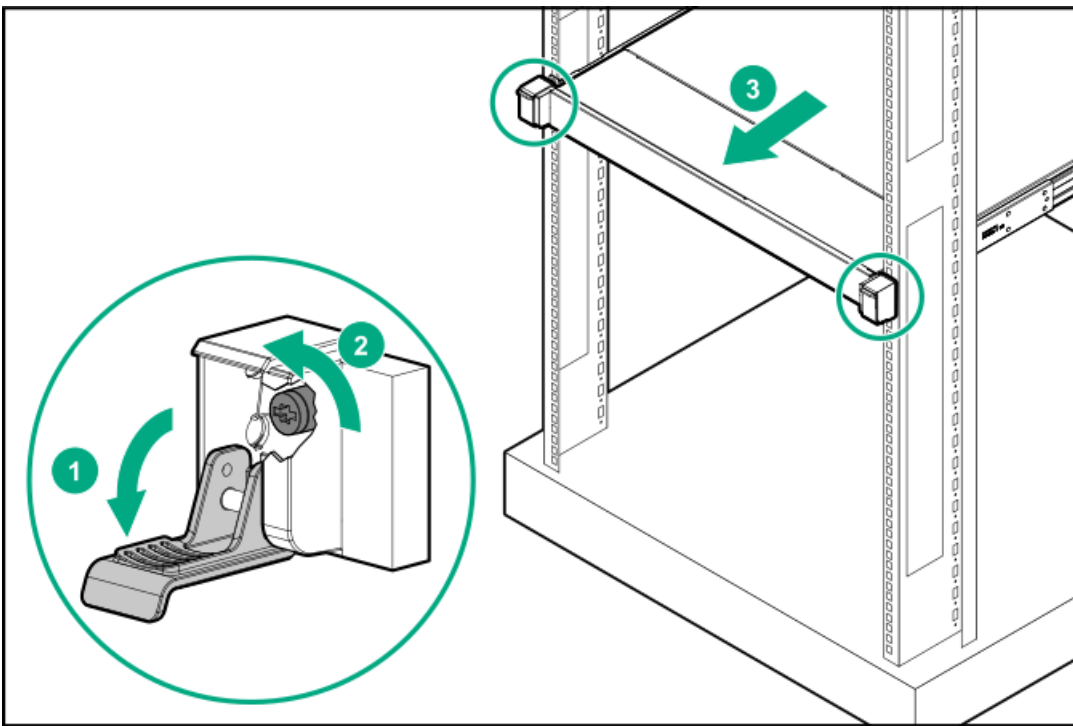


- e. Remove the cable management arm.



2. Extend the server from the rack:
 - a. Open the latches on both sides of the server.
 - b. If necessary, use a T-25 Torx screwdriver to loosen the shipping screws.
 - c. Slide the server out of the rack.





3. Extend the server on the rack rails until the server rail-release latches engage.

Removing the server from the rack

⚠ WARNING: This server is heavy. To reduce the risk of personal injury or damage to the equipment:

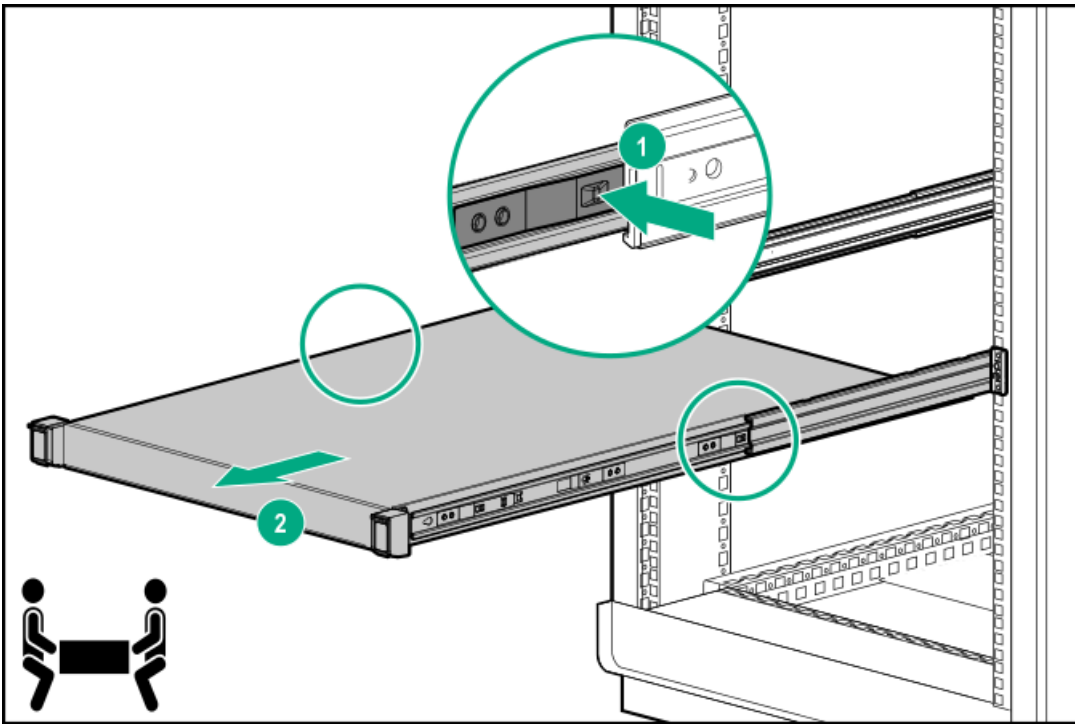
- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails.

Hewlett Packard Enterprise recommends that a minimum of two people are required for all rack server installations. If the server is installed higher than chest level, a third person may be required to help align the server.

- Use caution when installing the server in or removing the server from the rack. The server is unstable when not fastened to the rails.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Extend the server from the rack.
4. Remove the server from the rack. Press and hold both server rail-release latches while removing the server.



5. Place the server on a sturdy, level surface.

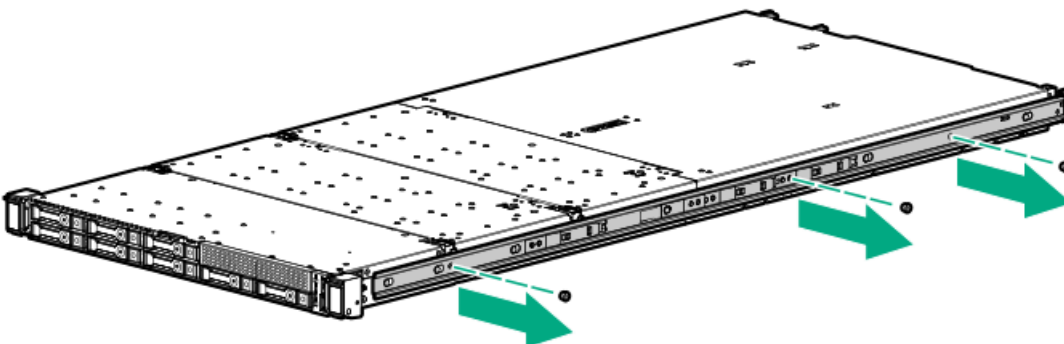
Removing the inner rack rails

Prerequisites

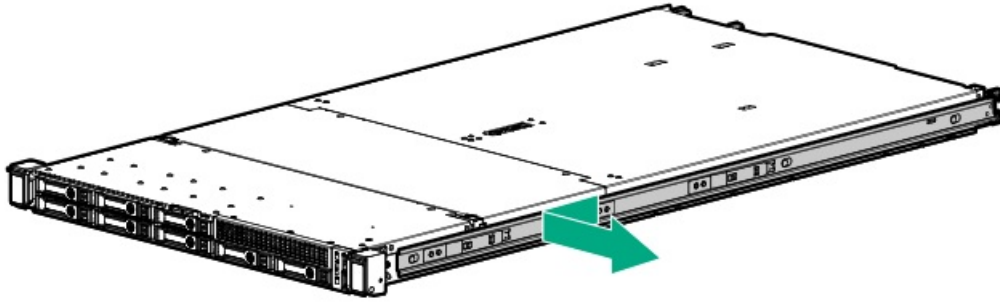
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. For the long chassis, remove three screws on each side.



7. Slide the inner rails towards the front of the chassis and pull them out.



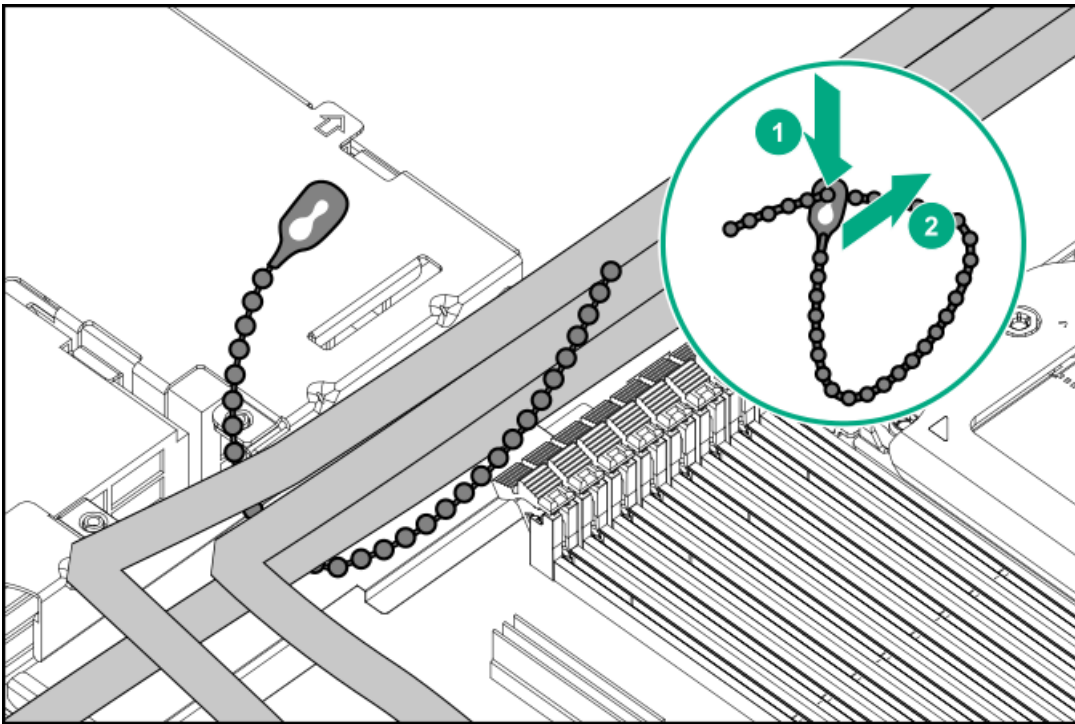
Removing the outer drive cage

Prerequisites

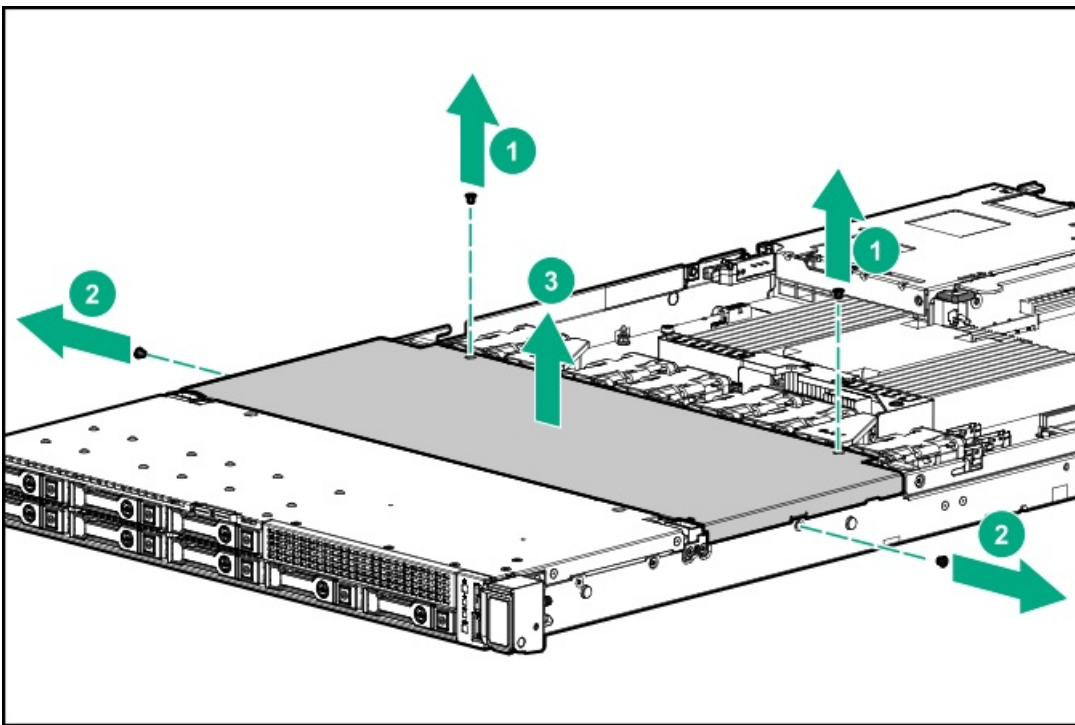
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

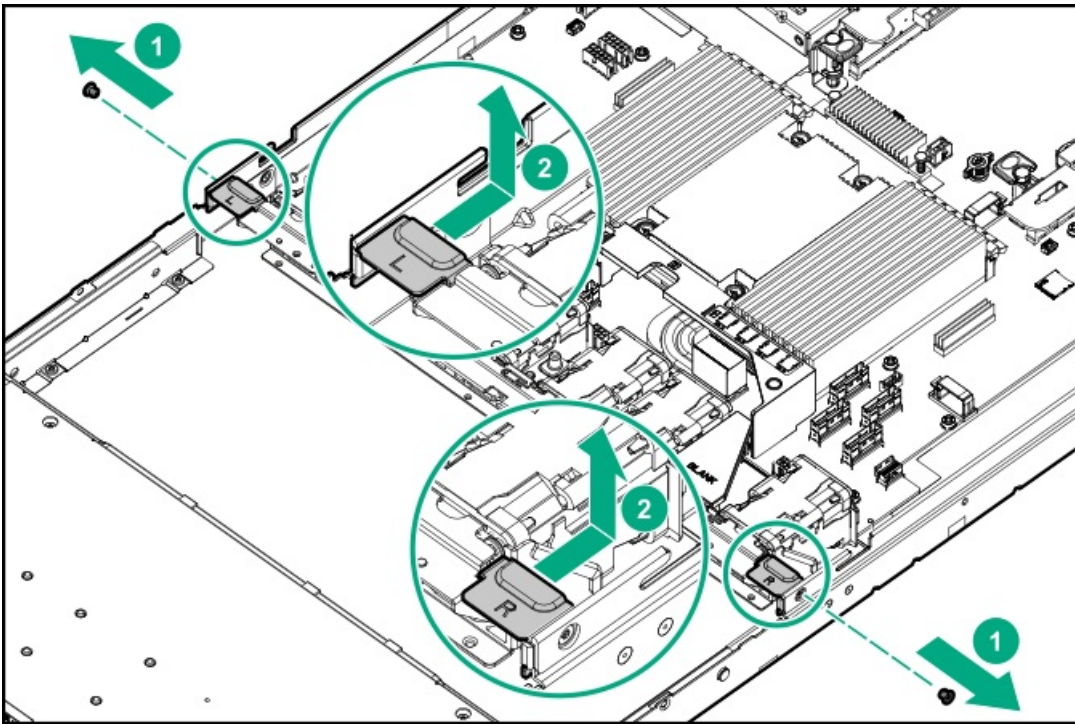
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Disconnect all drive backplane cables connected to the system board or expansion boards.
9. Release all cables from the cable tie.



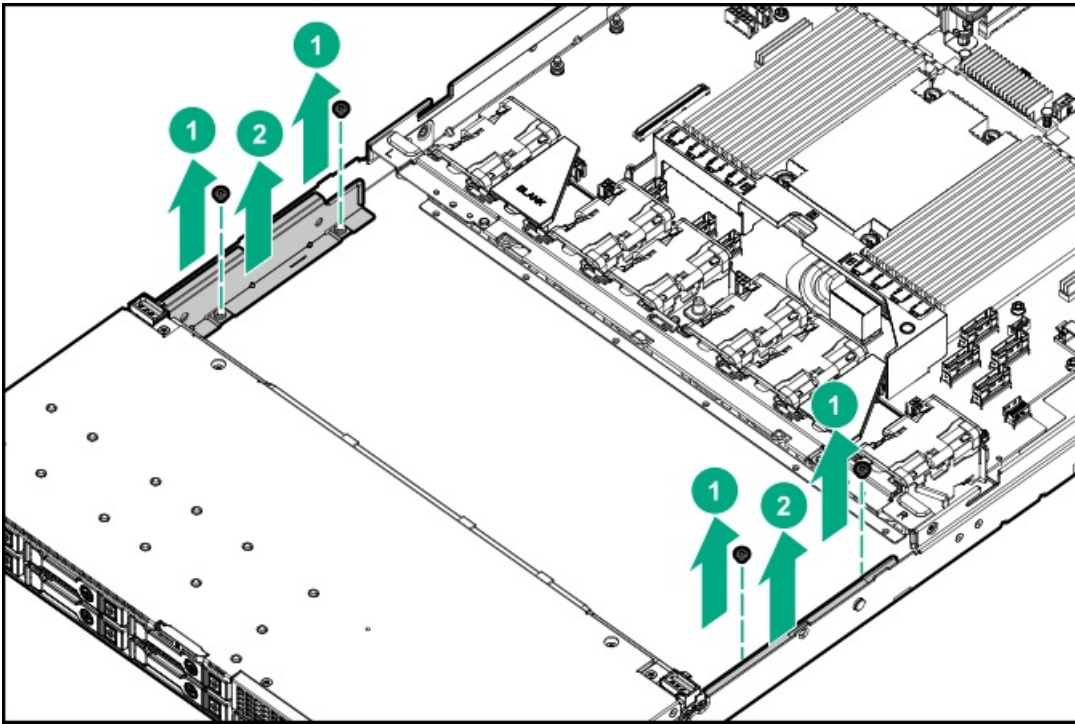
10. Remove the inner drive cage blank.



11. Remove the fan wall covers.

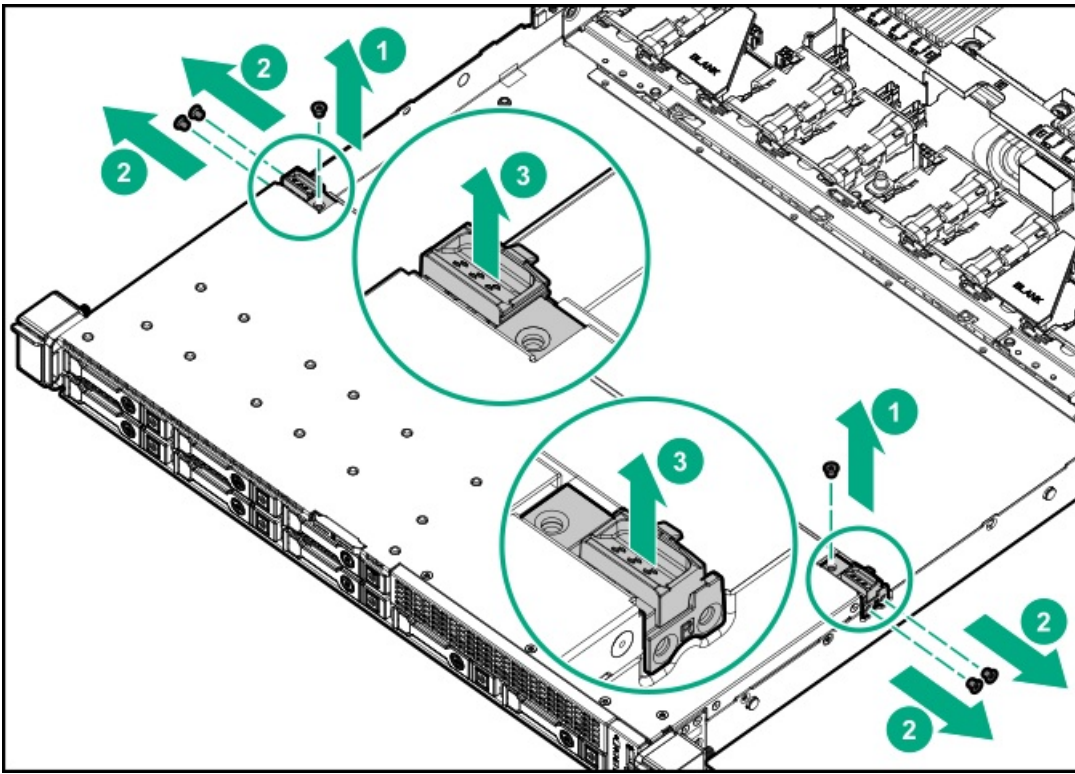


12. For SFF drive cage, remove the cable covers.



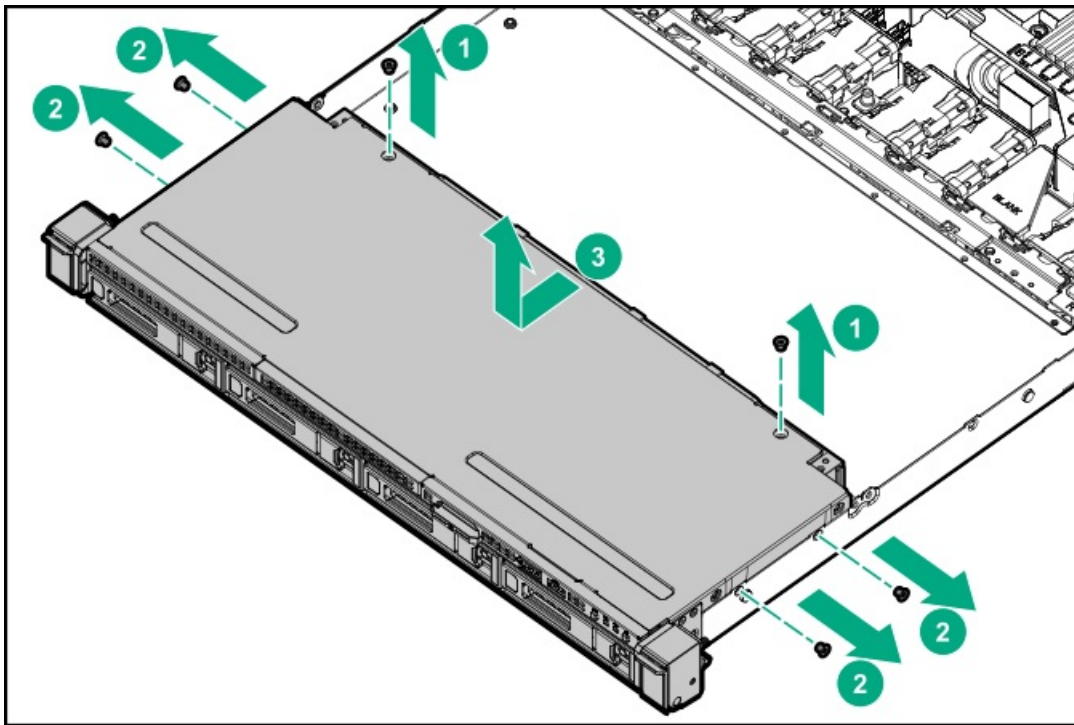
13. Remove the drive cage latches.





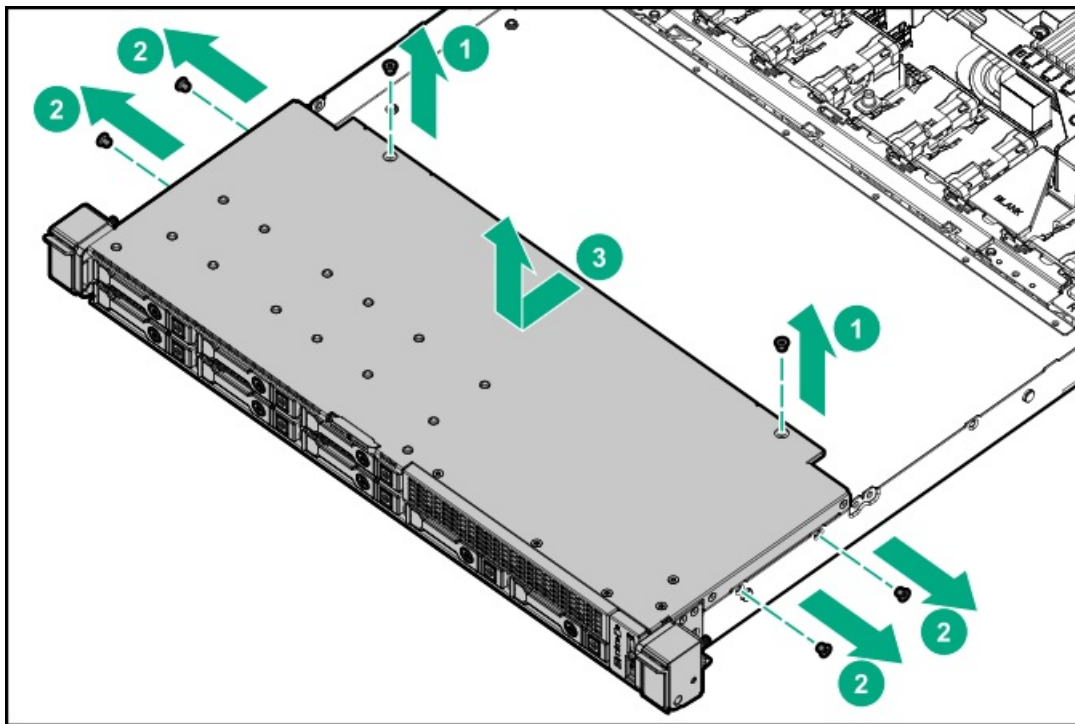
14. Remove the outer drive cage.

- LFF



- SFF





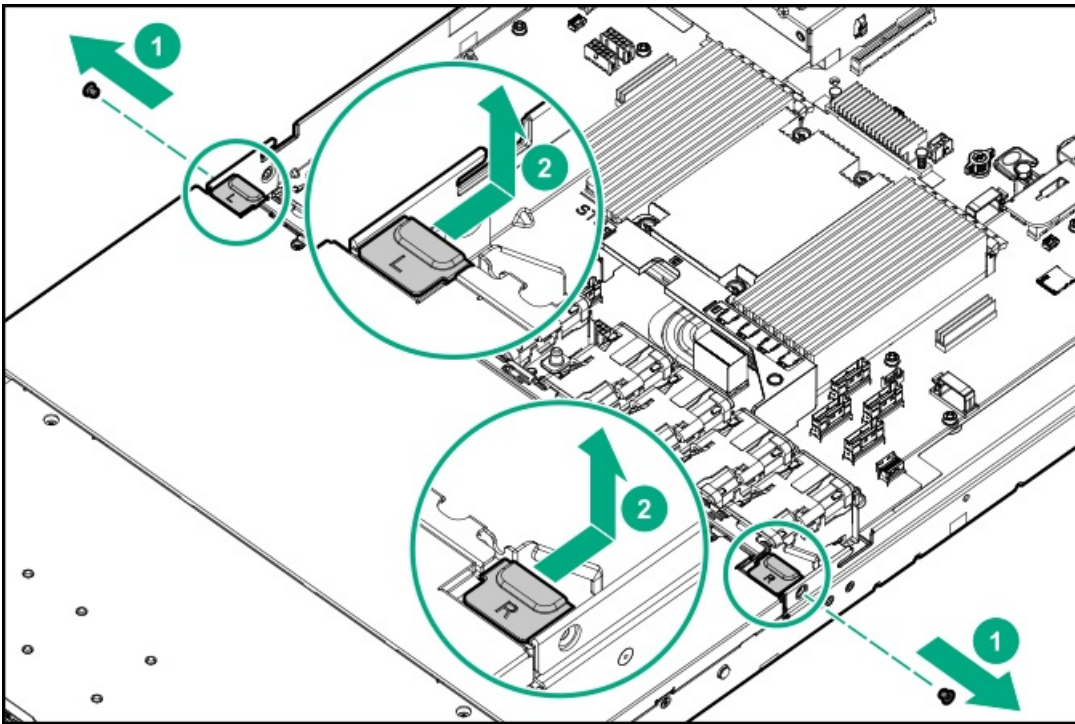
Removing an inner drive cage

Prerequisites

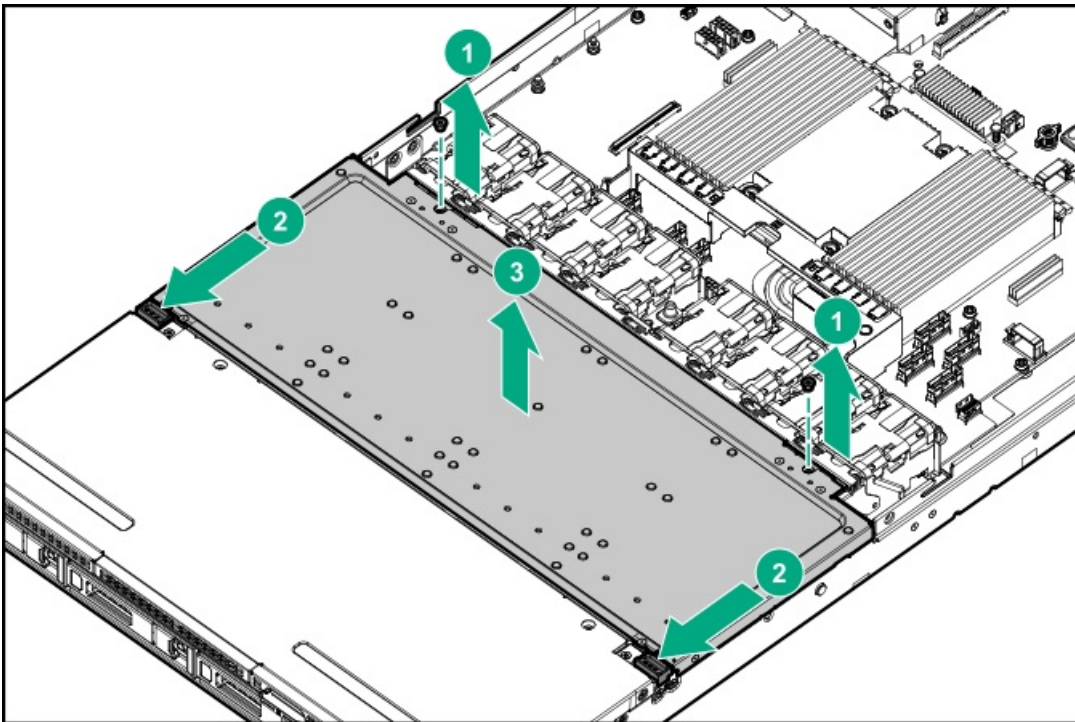
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Disconnect all drive backplane cables connected to the system board or expansion boards.
9. Remove the fan wall covers.



10. Remove the inner drive cage.



Removing the access panel

CAUTION: Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

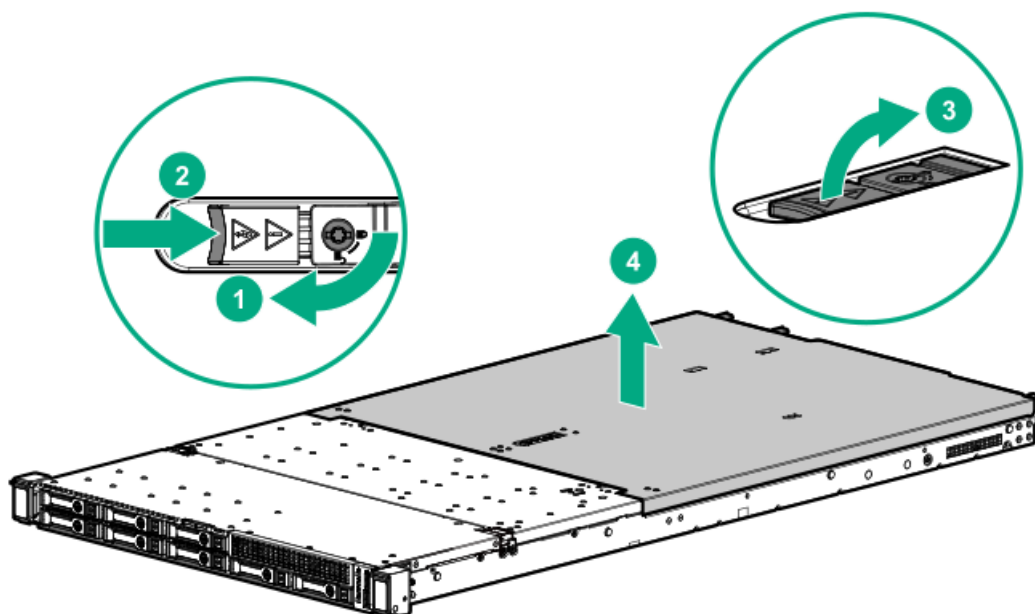
Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.

2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel:
 - a. If necessary, unlock the access panel latch.
 - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
 - c. Lift the access panel.

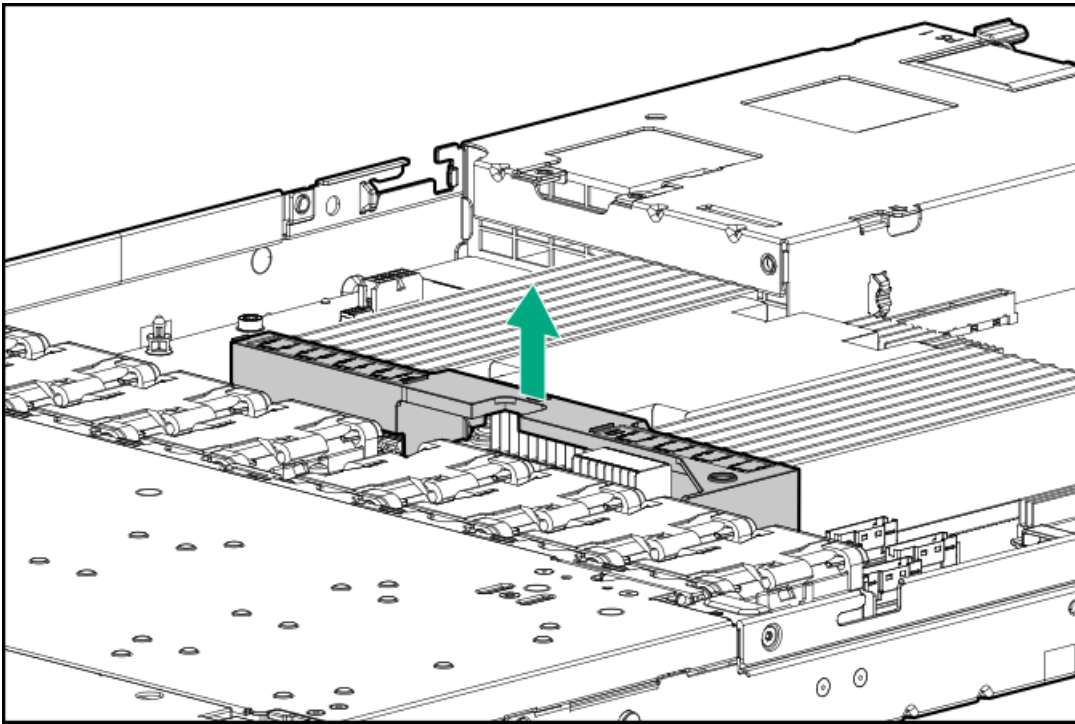


Removing the air baffle

CAUTION: For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.



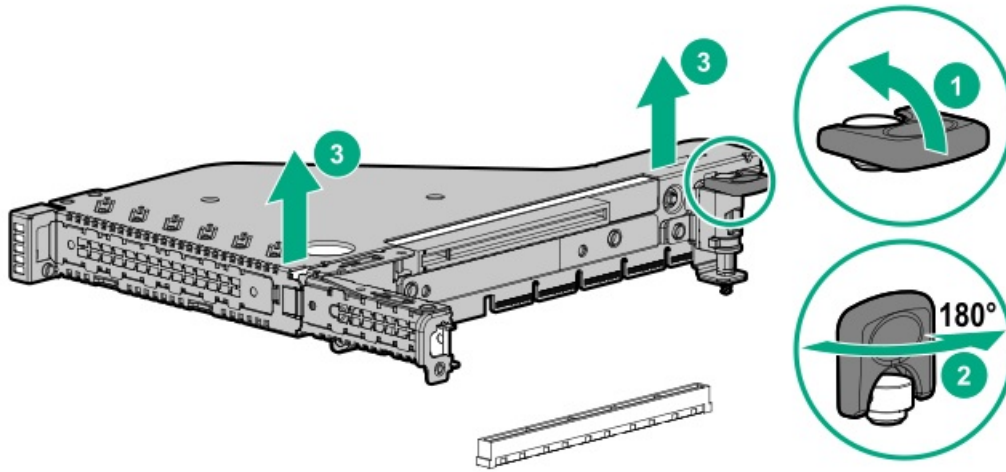
Removing a riser cage

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

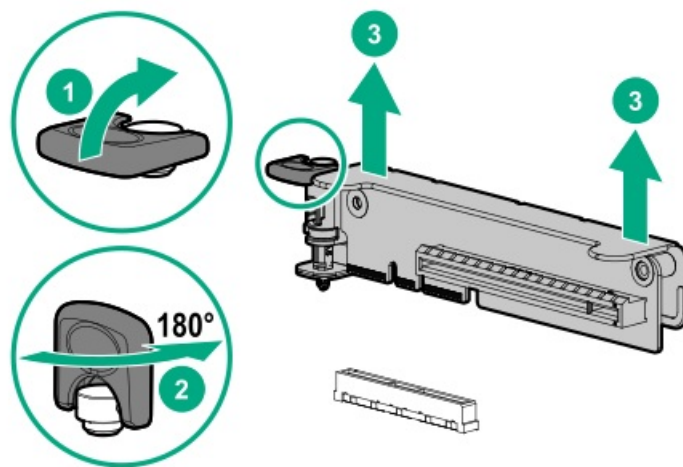
⚠ CAUTION:
To prevent damage to the server or expansion boards, power down the server, and disconnect all power cords before removing or installing the riser board.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If installed, disconnect all cables from the expansion boards and remove the expansion boards.
8. Remove the riser cage.
 - Primary riser cage



- Secondary riser cage



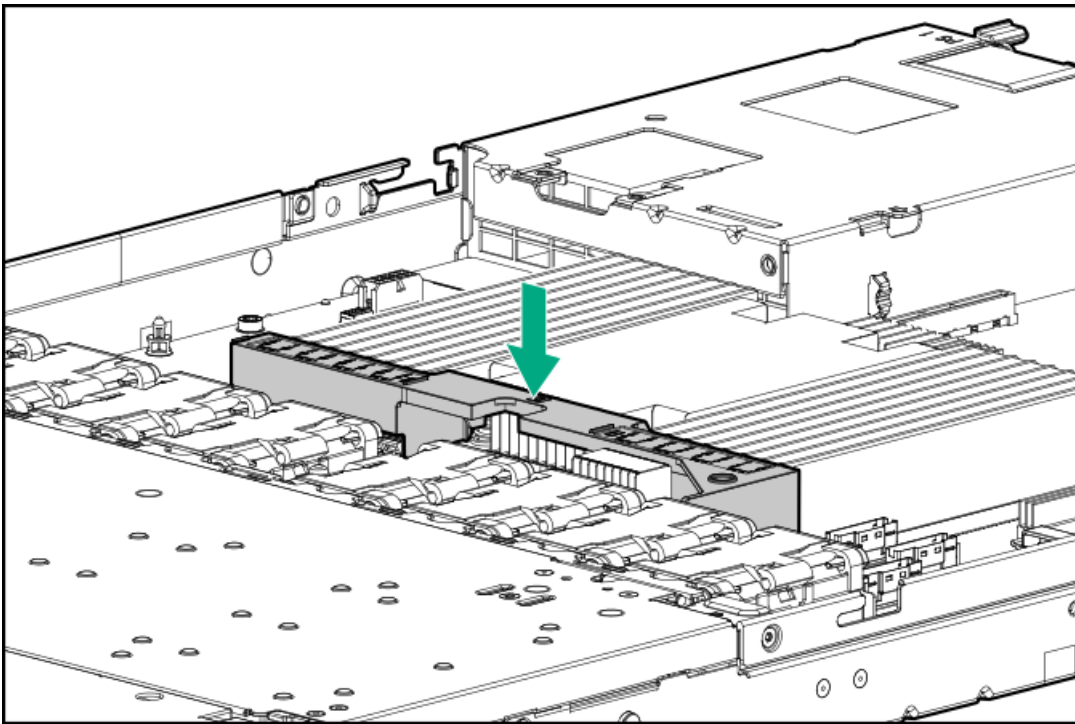
Installing the air baffle

Procedure

1. Observe the following alert.

⚠ **CAUTION:** For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

2. Install the air baffle.



3. Install the access panel.
4. Install the server into the rack.
5. Connect all peripheral cables to the server.
6. Connect each power cord to the server.
7. Connect each power cord to the power source.
8. Power up the server.
9. If removed, install the bezel.

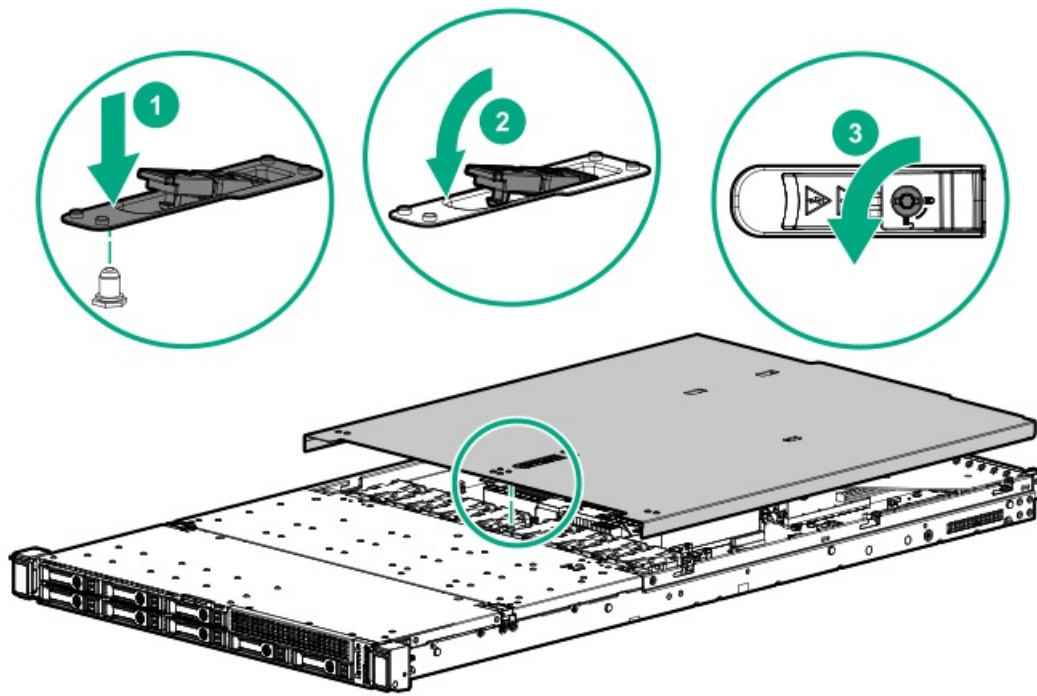
Installing the access panel

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

1. Place the access panel on top of the server with the latch open.
Allow the panel to extend past the rear of the server approximately 1.25 cm (0.5 in).
2. Push down on the latch.
The access panel slides to a closed position.
3. Tighten the security screw on the latch, if needed.



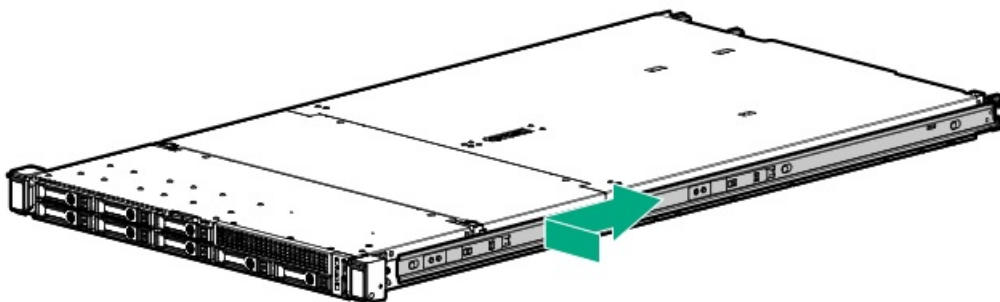
Installing the inner rack rails

Prerequisites

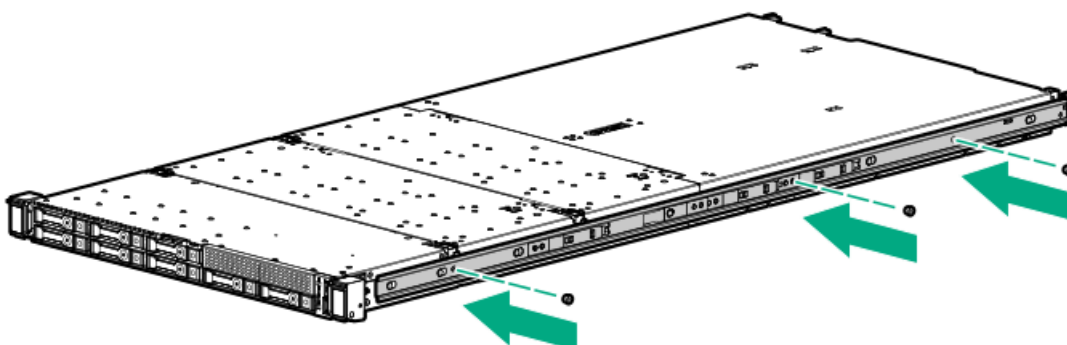
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. Align the holes on the rack rail with the chassis alignment pins and slide the rails against the chassis wall.



2. For the long chassis, install three screws on each side.



Installing the server into the rack

⚠ WARNING: This server is heavy. To reduce the risk of personal injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails. Hewlett Packard Enterprise recommends that a minimum of two people are required for all rack server installations. A third person may be required to help align the server if the server is installed higher than chest level.
- Use caution when installing the server in or removing the server from the rack; it is unstable when not fastened to the rails.

⚠ CAUTION: Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

Prerequisites

Before you perform this procedure, make sure that you have a T-25 Torx screwdriver available.

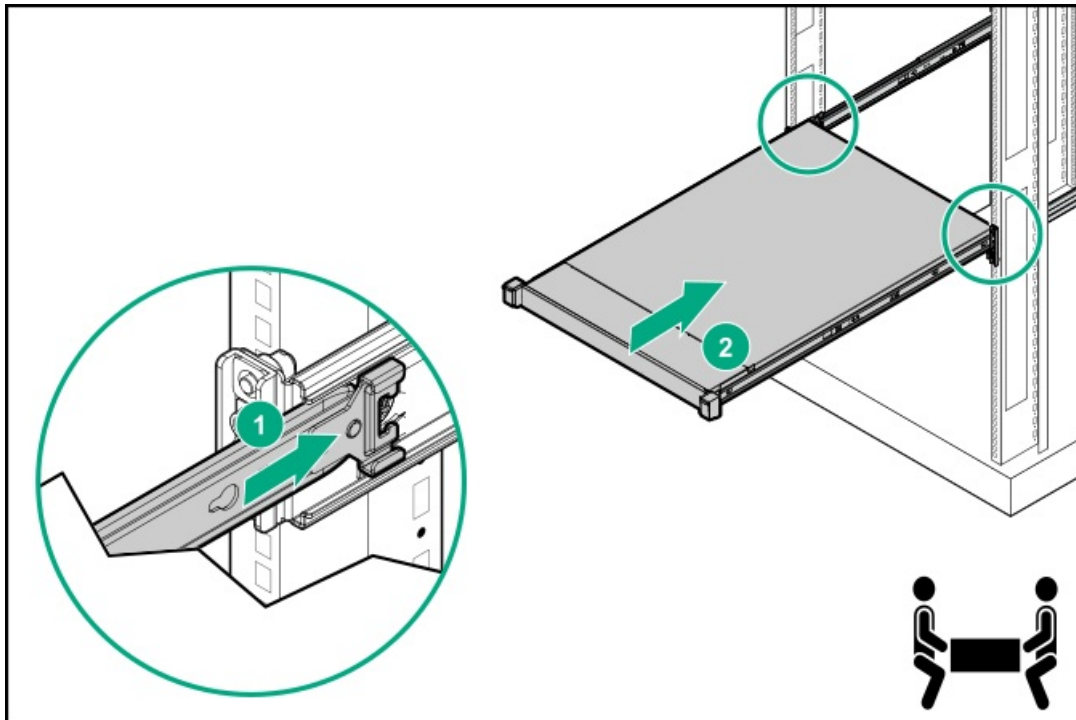
Procedure

1. Install the rack rail option.

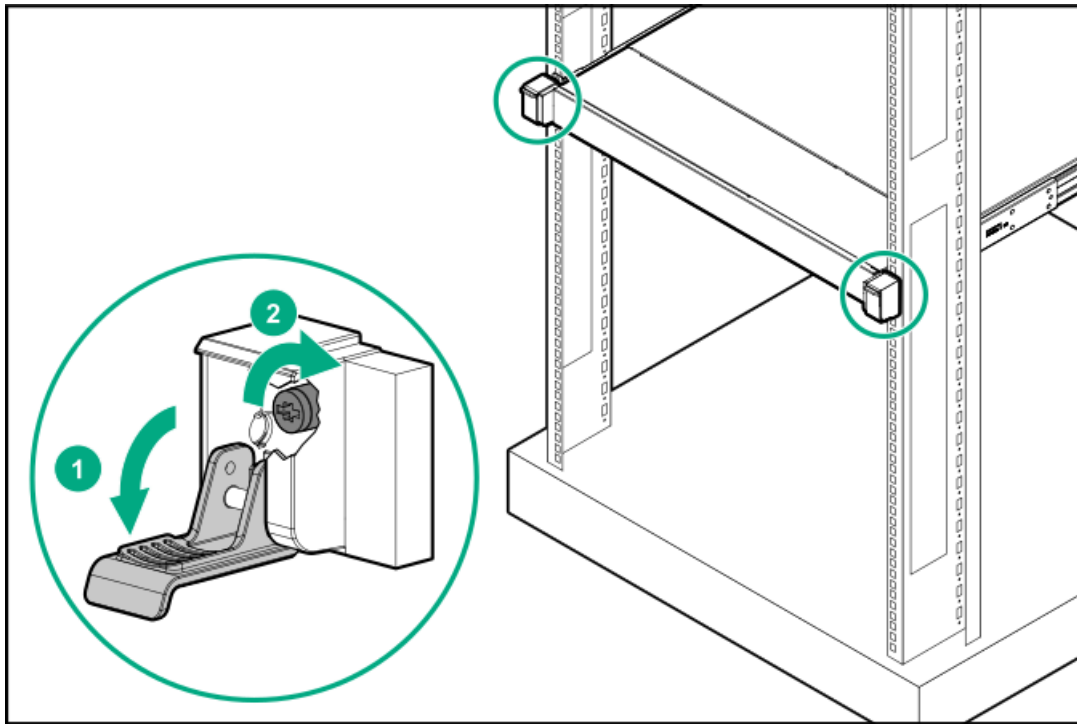
For more information, see Installation Instructions on the [Hewlett Packard Enterprise website](#).

2. Install the server into the rack:

- a. Align the inner rails of the server with the outer rails.
- b. Slide the server into the rack until the quick-release latches engage with the front columns of the rack.



- c. Open the latches and tighten the shipping screws, if necessary.



3. Connect peripheral devices to the server.
For information on identifying connectors, see [Rear panel components](#).
4. Connect the power cord to the rear of the server.
5. Secure the power cord in the cable management arm.
6. Connect the power cord to the power source.

Powering up the server

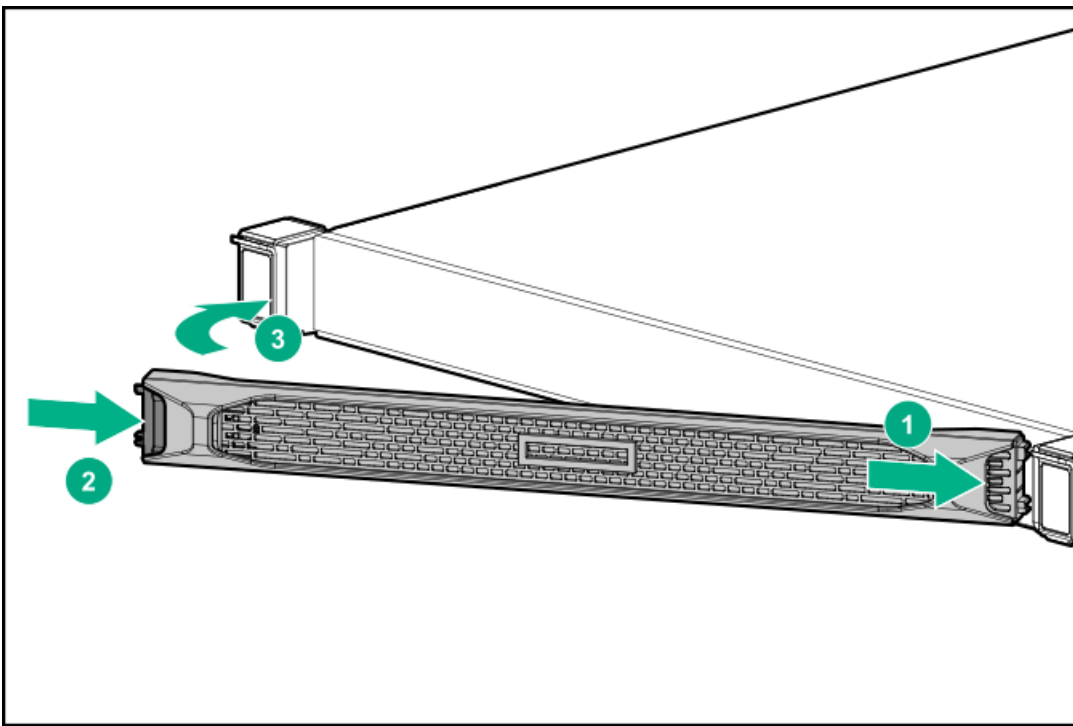
Procedure

1. [Remove the bezel](#).
2. Use one of the following methods to power up the server:
 - Press the Power On/Standby button.
 - Use the virtual power button through iLO.
3. [Install the bezel](#).

Installing the bezel

Procedure

1. Install the bezel.
 - a. Attach the bezel to the latch ear.
 - b. Press the latch.
 - c. Close the bezel.



2. Install the Kensington security lock.

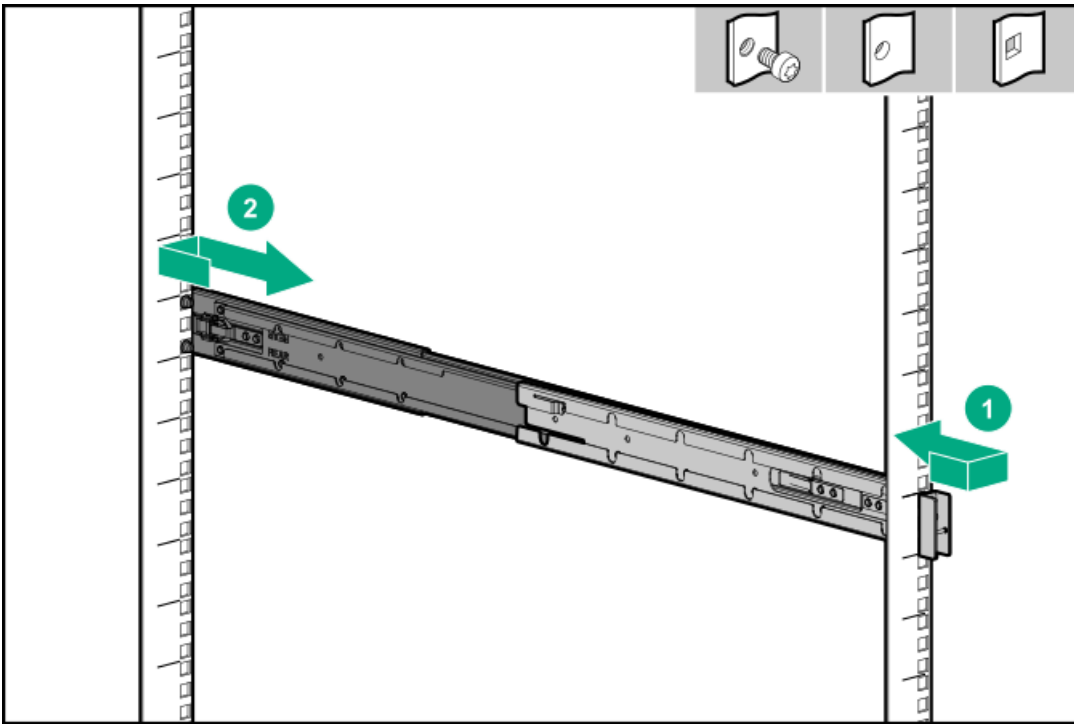
Removing and replacing the rack rails

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Remove the server from the rack.
5. Place the server on a sturdy, level surface.
6. Optional: For threaded hole rack, remove the screws that secures the rail to the rack.
7. Remove the rail from the rack.

ⓘ IMPORTANT:

When removing the rail from the rack, always remove the front of the rail first.

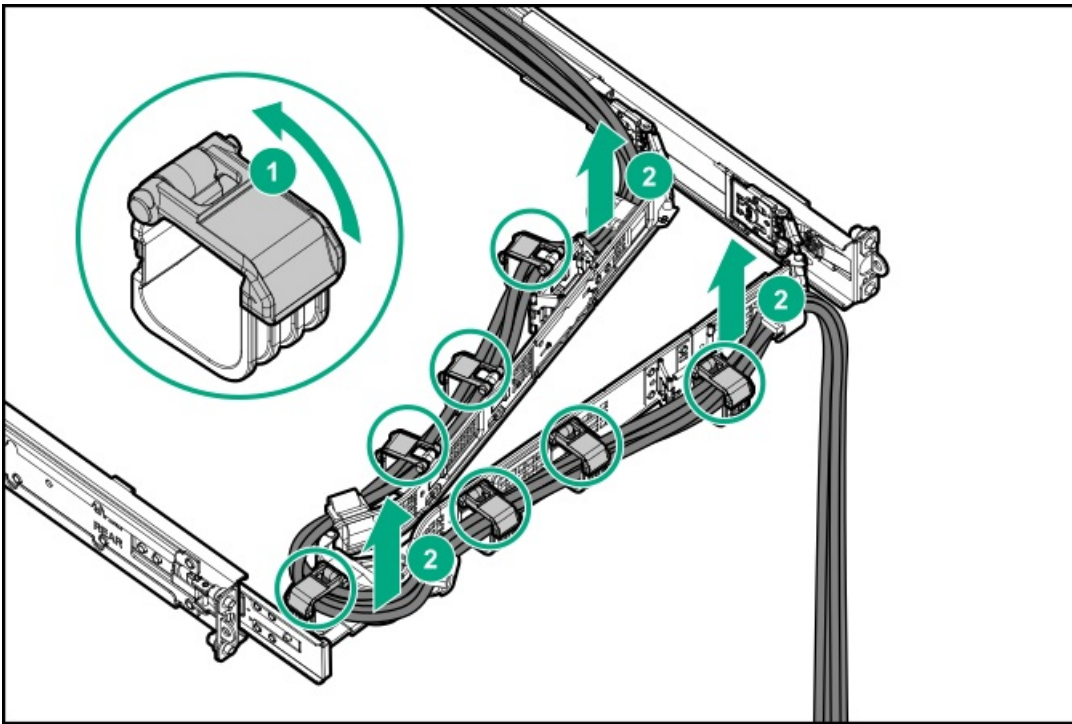


To replace the component, reverse the removal procedure.

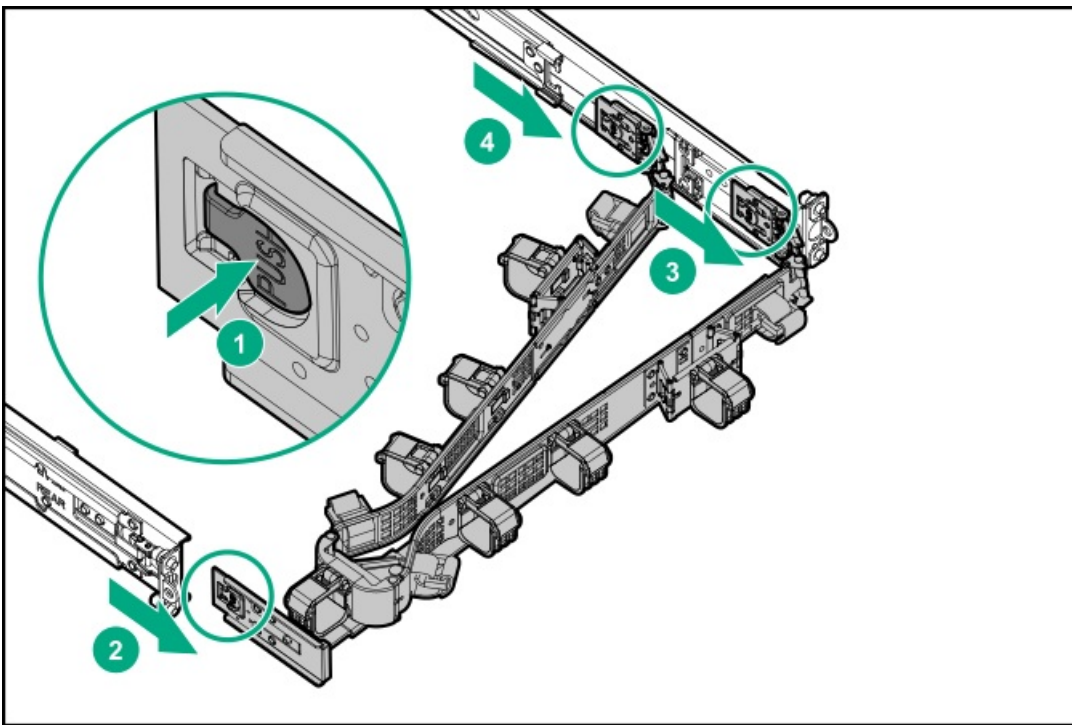
Removing and replacing the cable management arm

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Remove the cables from the cable management arm.



5. Remove the cable management arm.



To replace the component, reverse the removal procedure.

Removing and replacing the access panel

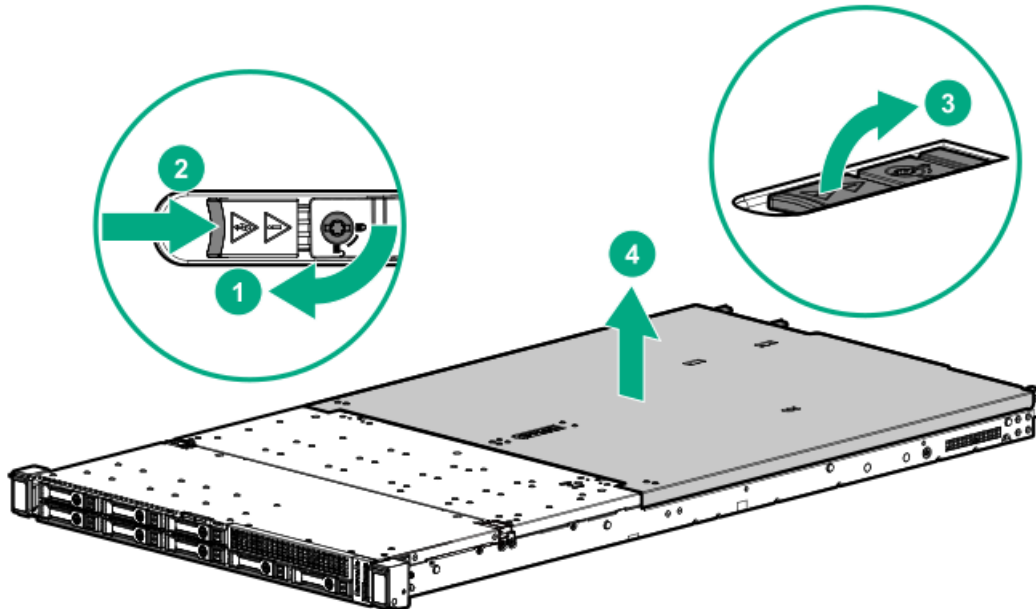
CAUTION: Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel:
 - a. If necessary, unlock the access panel latch.
 - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
 - c. Lift the access panel.



To replace the component, reverse the removal procedure.

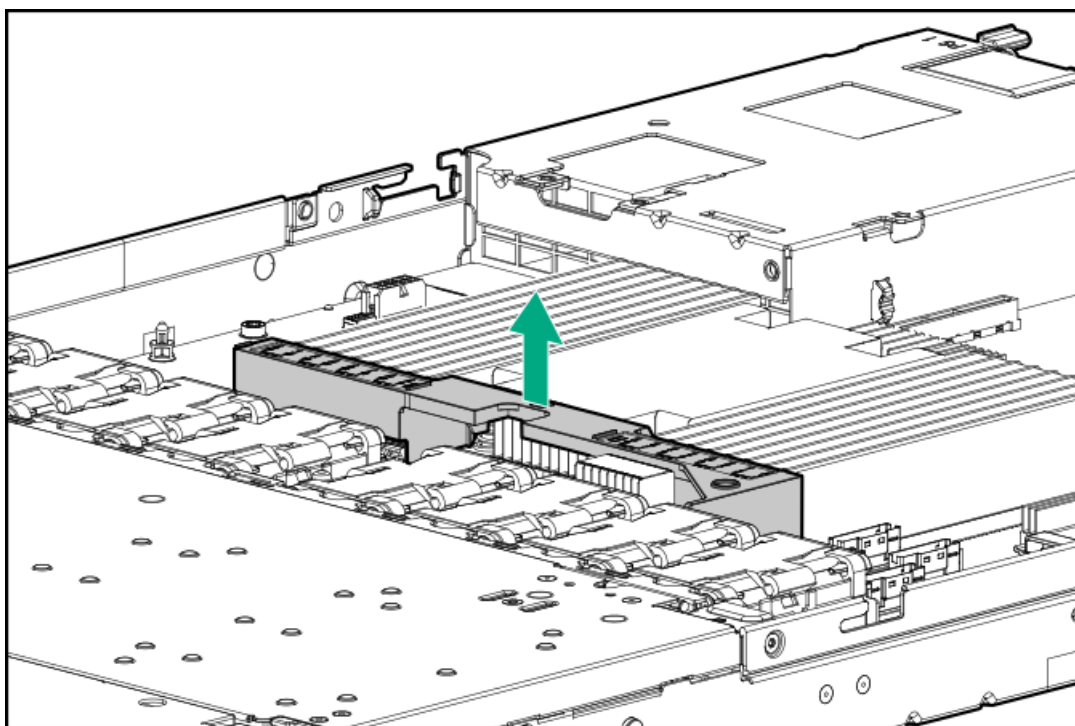
Removing and replacing the air baffle

CAUTION: For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

Procedure

1. If installed, remove the bezel.

2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.



To replace the component, reverse the removal procedure.

Removing and replacing a fan blank

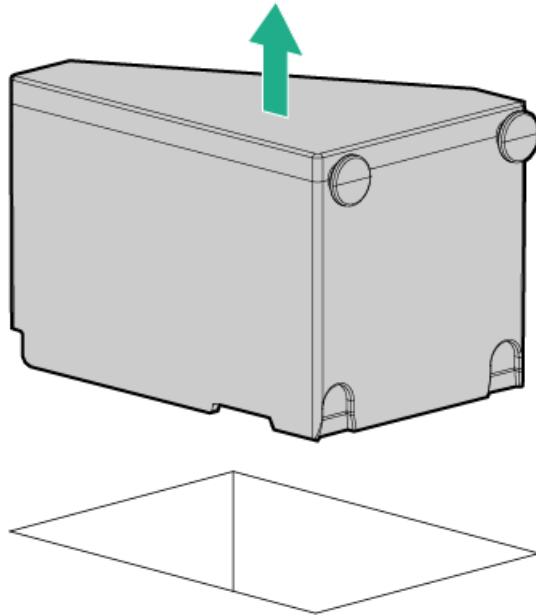


CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated.

Procedure

1. Extend the server from the rack.
2. Remove the access panel.
3. Remove the fan blank.



To replace the component, reverse the removal procedure.

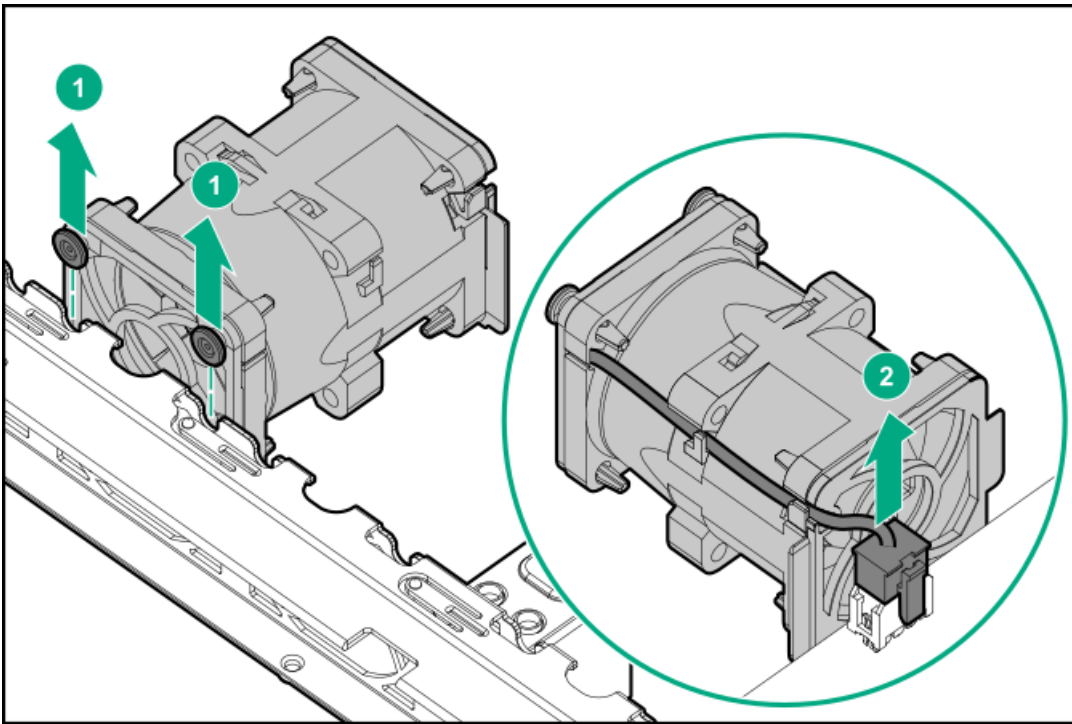
Removing and replacing a fan

△ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated.

Procedure

1. Extend the server from the rack.
2. Remove the access panel.
3. Remove the fan and disconnect the fan cable from the system board.



To replace the component, reverse the removal procedure.

Removing and replacing a drive blank

CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated.

Procedure

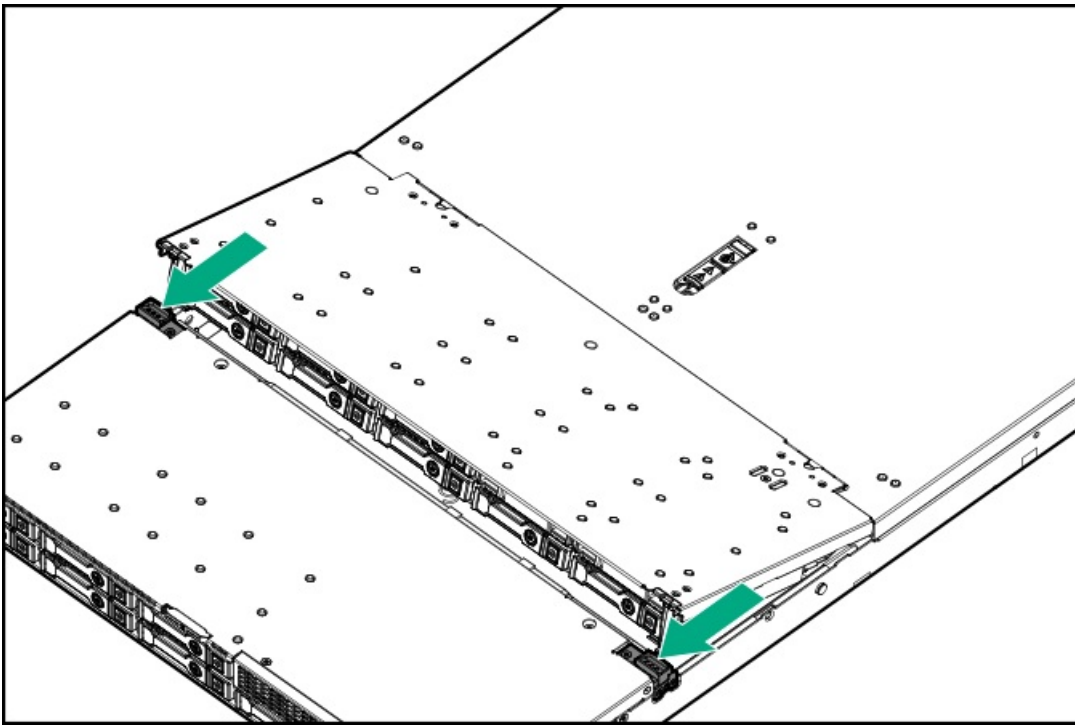
1. To remove a drive blank in outer drive cage, remove the bezel if installed.
2. To remove a drive blank from an inner drive cage, do the following:

NOTE:

If the HPE designated cable management arm is not installed on the rack, ensure that the cables at the rear of the server are not damaged while extending the server.

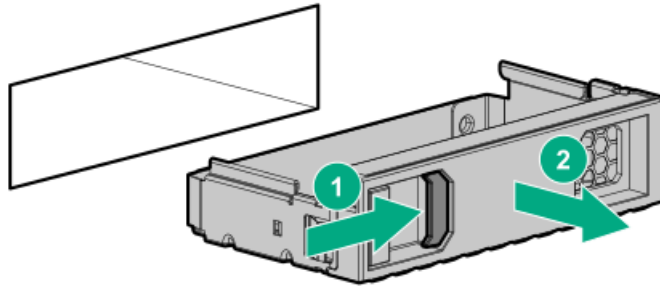
- a. Extend the server from the rack.
- b. To open the inner drive cage, press the cage latches.

The drive cage pops out of the chassis in the slanting position.

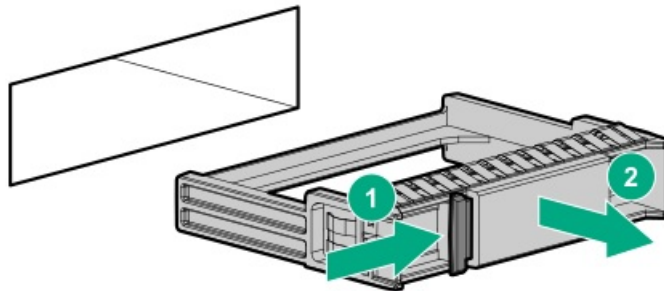


3. Remove the drive blank.

- LFF drive blank



- SFF drive blank



To replace the component, reverse the removal procedure.

Removing and replacing a hot-plug drive



CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

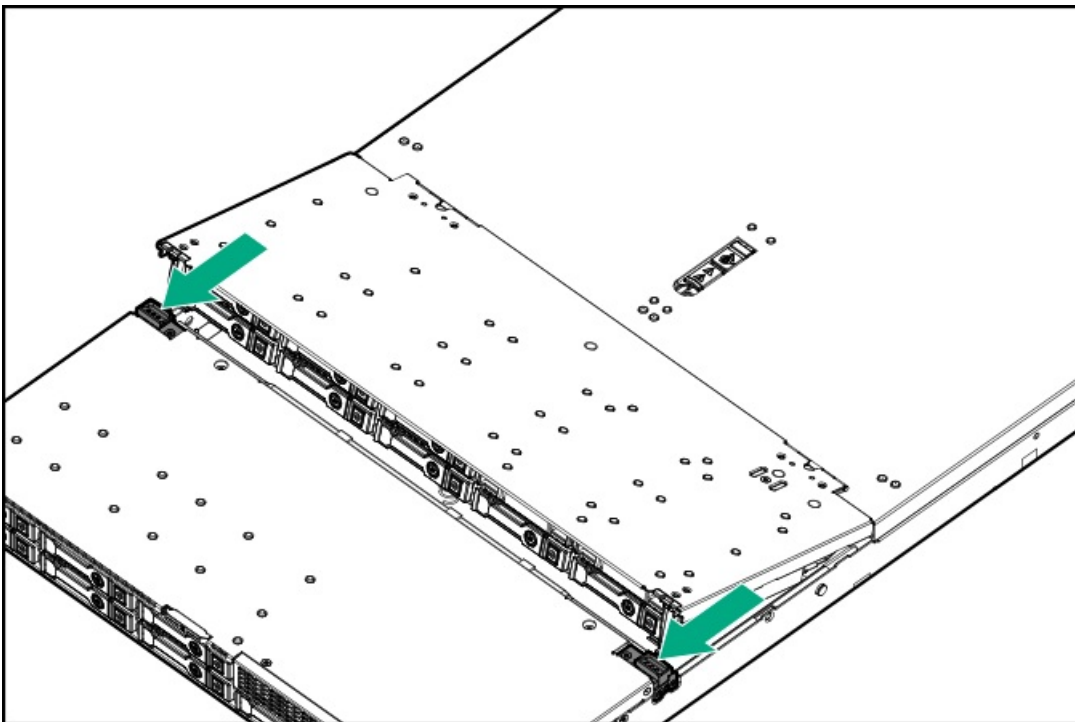
1. Back up all server data on the drive.
2. To remove a drive in outer drive cage, remove the bezel if installed.
3. To remove the hot-plug drive from an inner drive cage, do the following:

NOTE:

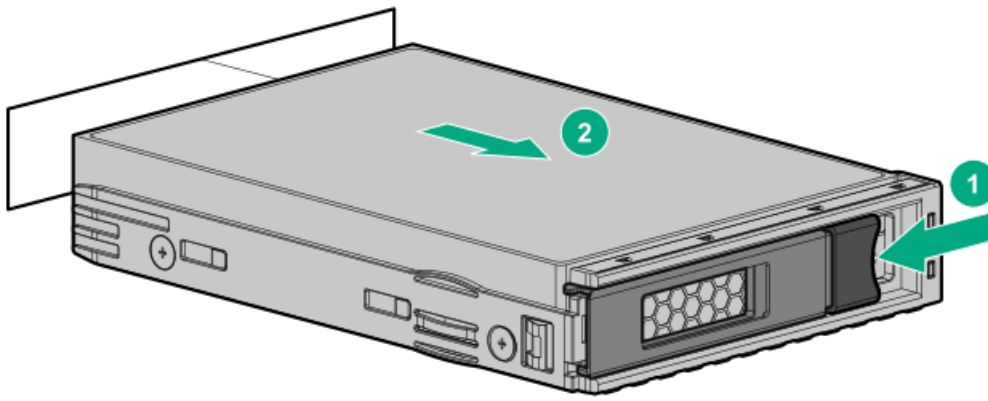
If the HPE designated cable management arm is not installed on the rack, ensure that the cables at the rear of the server are not damaged while extending the server.

- a. Extend the server from the rack.
- b. To open the inner drive cage, press the cage latches.

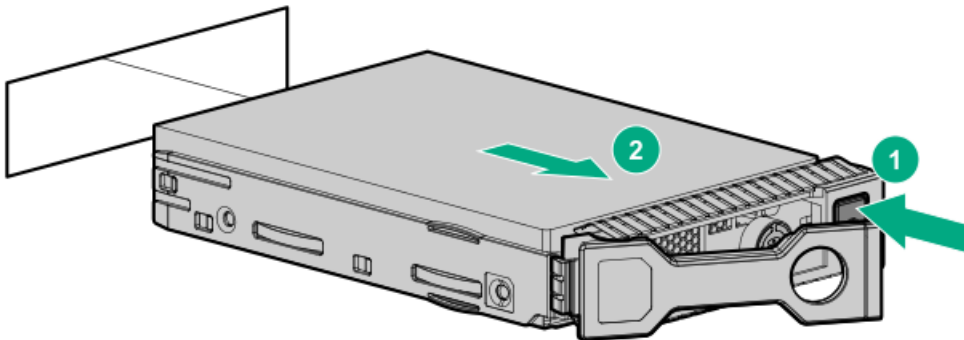
The drive cage pops out of the chassis in the slanting position.



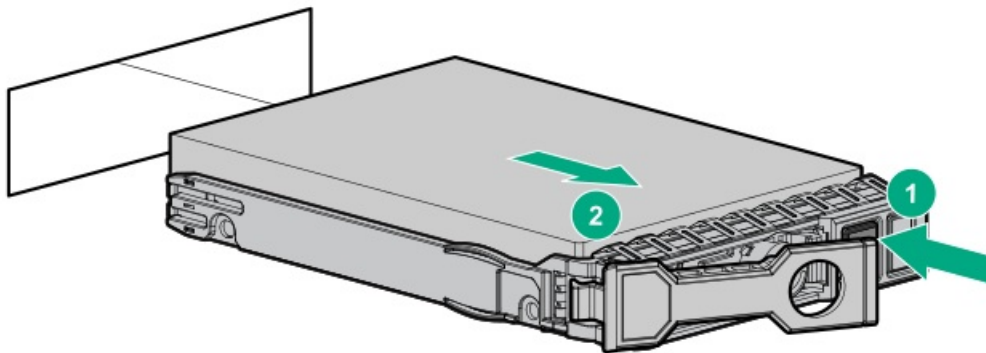
4. Observe the LED status of the drive and determine if it can be removed.
5. Remove the hot-plug drive.
 - LFF



- SFF Smart Carrier (SC) SAS/SATA/NVMe



- SFF Smart Carrier NVMe (SCN)



To replace the component, reverse the removal procedure.

Removing and replacing a uFF drive

Procedure

1. Back up all server data.
2. To remove a drive in outer drive cage, remove the bezel if installed.

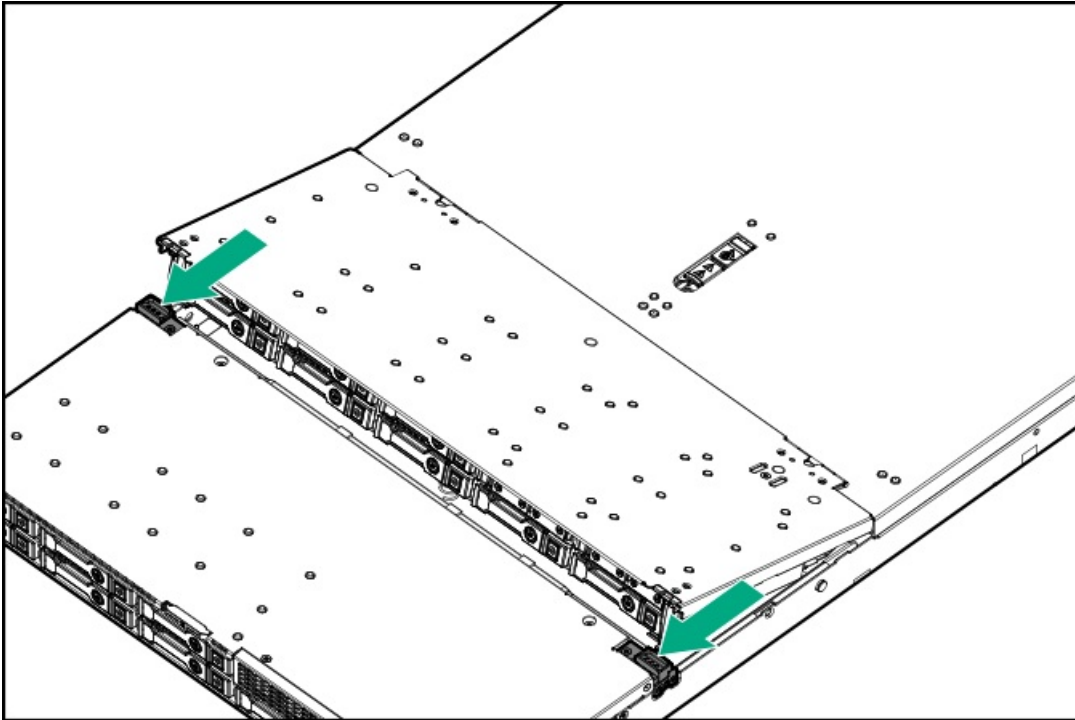
- To remove the drive from an inner drive cage, do the following:

NOTE:

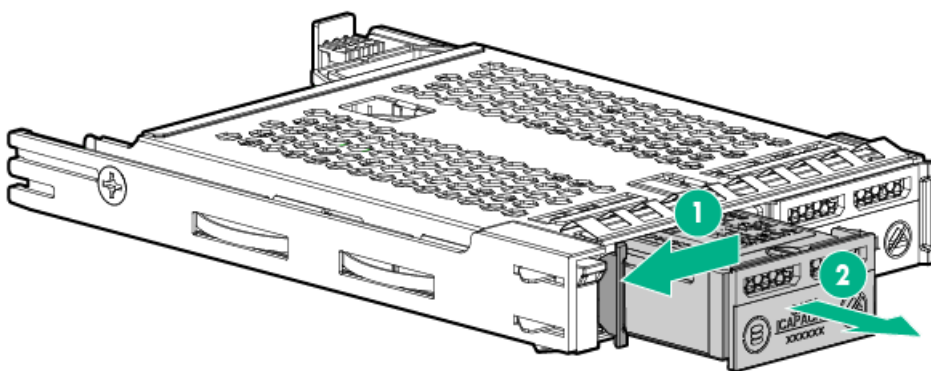
If the HPE designated cable management arm is not installed on the rack, ensure that the cables at the rear of the server are not damaged while extending the server.

- Extend the server from the rack.
- To open the inner drive cage, press the cage latches.

The drive cage pops out of the chassis in the slanting position.

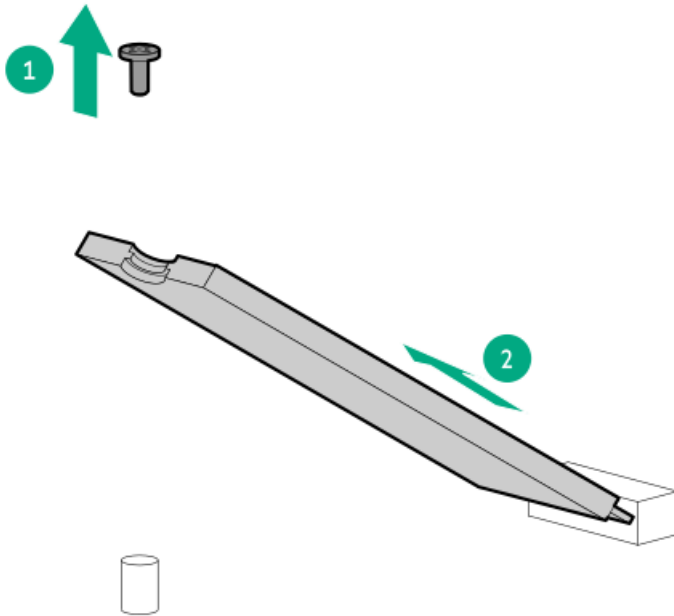


- Observe the LED status of the drive and determine if it can be removed.
- Remove the drive.

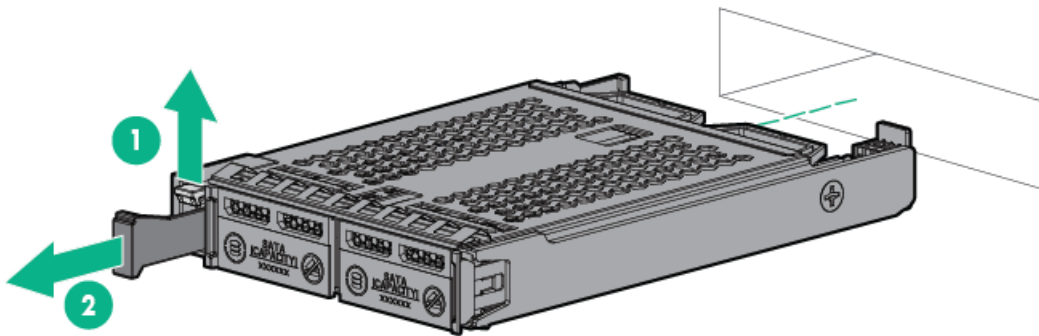


- If installed, remove the SSD card.

Retain the screw and SSD card for installing on new uFF drive.



7. Remove the drive carrier.



To replace the component, reverse the removal procedure.

M.2 SATA SSD option replacement

- [Removing and replacing the M.2 SATA SSD add-in card](#)
- [Removing and replacing an M.2 SATA SSD](#)

Removing and replacing the M.2 SATA SSD add-in card

⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

⚠ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

⚠ CAUTION:

Before replacing a DIMM, expansion card, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot. Do not bend or flex circuit boards when reseating components.

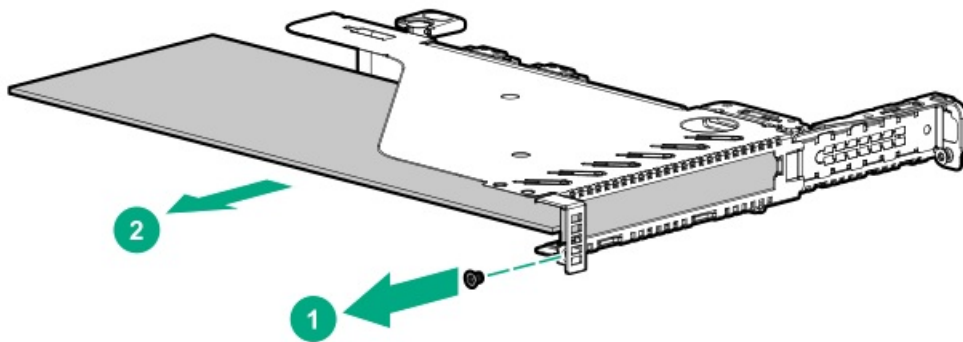
Prerequisites

Before you perform this procedure, make sure that you have the following items available:

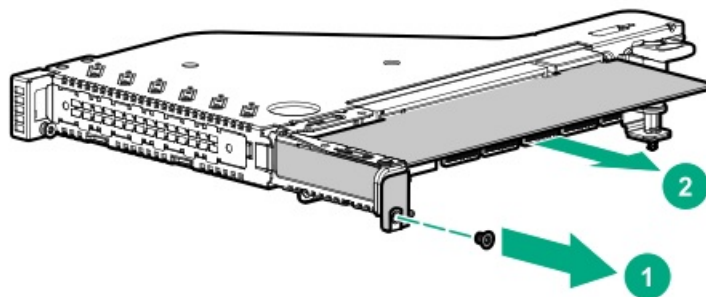
- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

Procedure

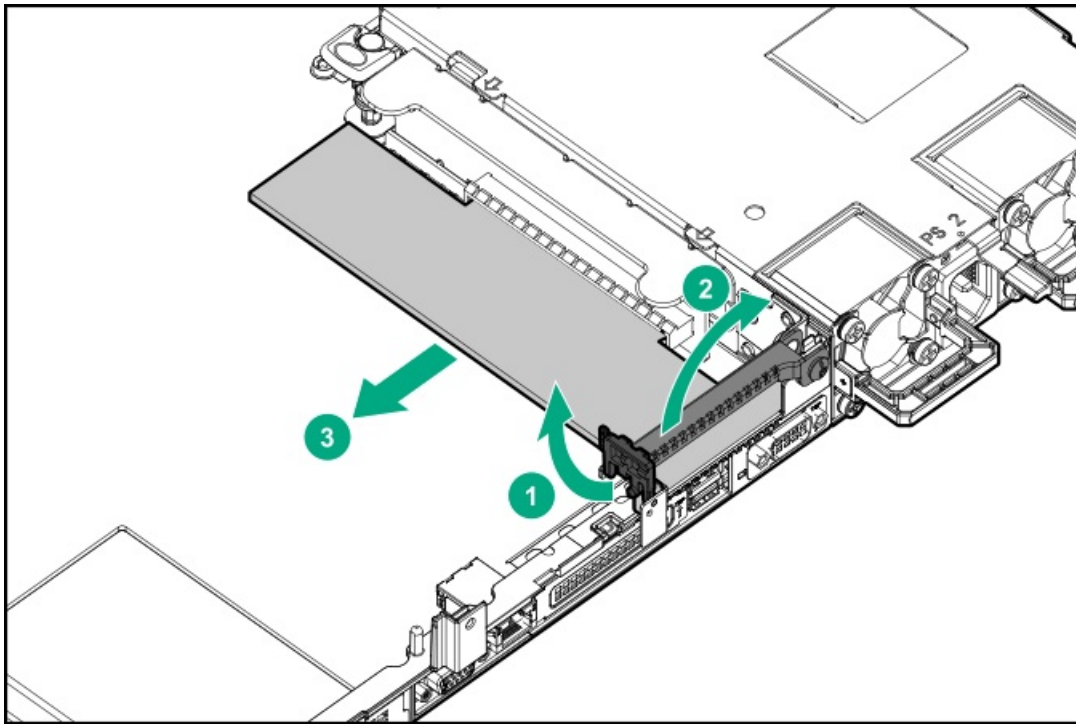
1. Back up all server data.
2. If installed, remove the bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Remove the access panel.
8. Disconnect the optical drive-M.2 SSD SATA splitter cable from the add-in card.
9. Remove the riser cage.
10. Remove the add-in card.
 - Primary riser slot 1



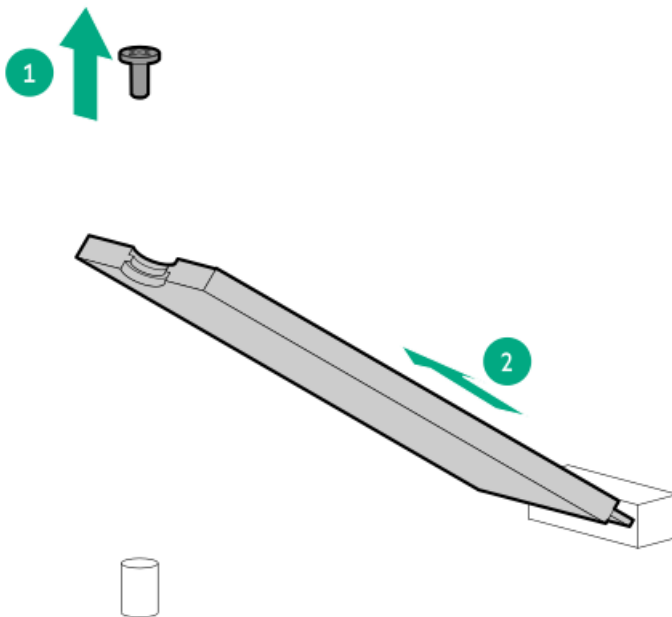
- Primary riser slot 2



- Secondary riser slot 3



11. Remove the M.2 SATA SSDs from the add-in card.



Retain these SSDs for installation onto the new add-in card.

To replace the component, reverse the removal procedure.

Removing and replacing an M.2 SATA SSD

This procedure is for drives on the system board, riser, or expansion card.

NOTE:

Do not perform this procedure on uFF drives.

Prerequisites

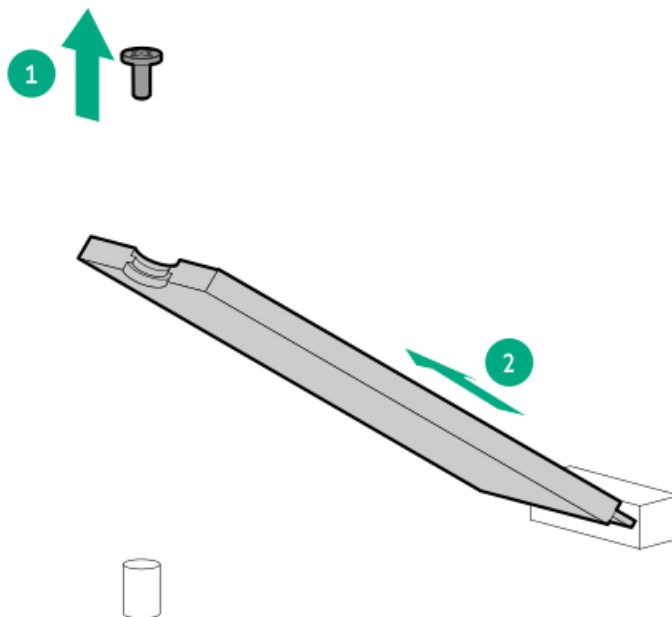
Before you perform this procedure, make sure that you have the following items available:

- Philips No. 1 screwdriver
- T-10 Torx screwdriver

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Disconnect the optical drive-M.2 SSD SATA splitter cable from the add-in card.
8. Remove the riser cage.
9. Remove the M.2 SATA SSD add-in card.
10. Remove the M.2 SATA SSD.

Retain the screw for installing the new M.2 SATA SSD.



To replace the component, reverse the removal procedure.

Drive backplane replacement

- Removing and replacing the 4 LFF drive backplane
- Removing and replacing the 2 SFF drive backplane
- Removing and replacing the 8 SFF drive backplane

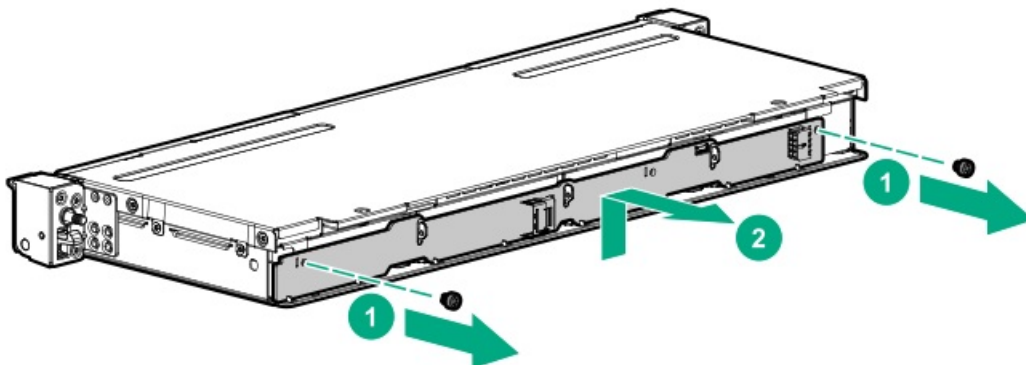
Removing and replacing the 4LFF SAS/SATA drive backplane

Prerequisites

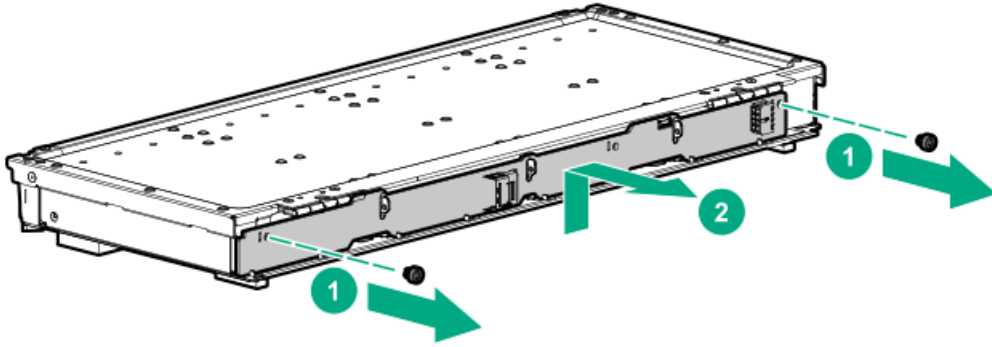
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove all drives connected to the drive backplane.
9. Disconnect all drive backplane cables to system board, controller card, or riser.
10. Do one of the following:
 - To replace the drive backplane of the outer drive cage (box 1):
 - a. If installed, remove the inner drive cage.
 - b. Remove the outer drive cage.
 - To replace the drive backplane of the inner drive cage (box 2), remove the inner drive cage.
11. Disconnect all cables from the 4LFF drive backplane.
12. Remove the 4LFF drive backplane.
 - a. Remove the screws
 - b. Lift the backplane and remove it from the chassis.
 - Outer drive cage



- Inner drive cage



To replace the component, reverse the removal procedure.

Removing and replacing a 2SFF SAS/SATA, uFF, or NVMe drive backplane

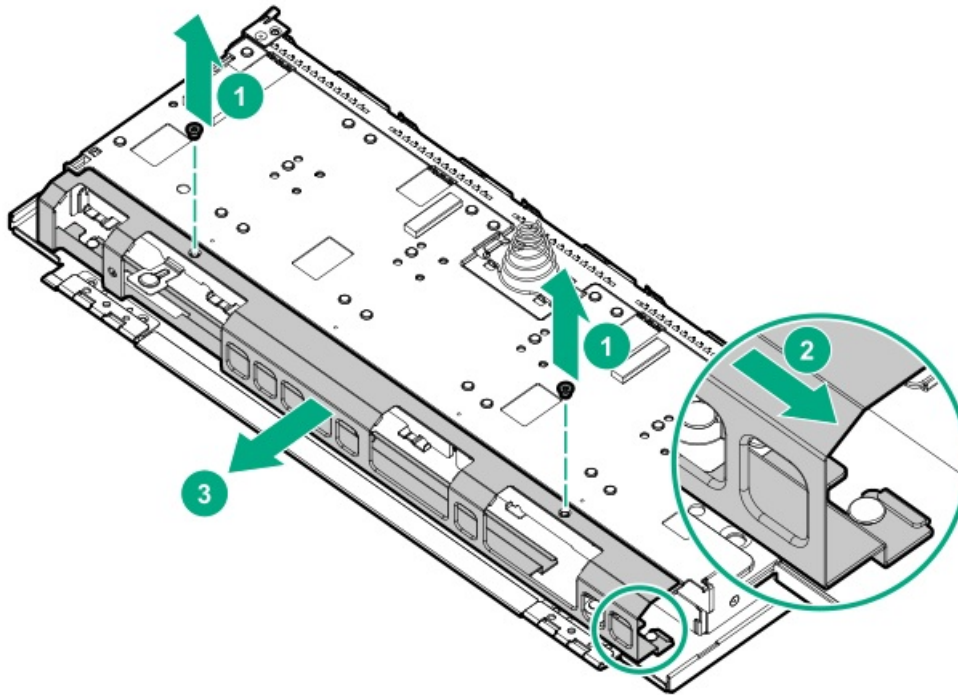
Prerequisites

Before you perform this procedure, make sure that you have T-10 Torx screwdriver available.

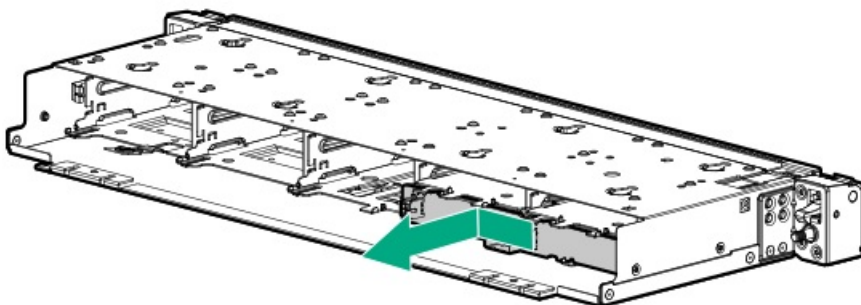
Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove all drives connected to the drive backplane to be removed:
 - Remove SAS/SATA, or NVMe drives.
 - Remove uFF drives.
9. Disconnect all drive backplane cables to system board, controller card, or riser.
10. Do one of the following:
 - To replace the drive backplane of the outer drive cage (box 2):
 - a. If installed, remove the inner drive cage.
 - b. Remove the outer drive cage.
 - To replace the drive backplane of the inner drive cage (box 4), remove the inner drive cage.
11. Place the drive cage on a flat, level surface with its bottom side facing up.
12. Remove the cable guard:
 - a. Remove the screws.

- b. Slide the cable guard horizontally to disengage it from the chassis.
- c. Remove the cable guard.



- 13. Disconnect all cables from the drive backplane.
- 14. Remove the 2SFF SAS/SATA, uFF, or NVMe drive backplane.
 - Outer drive cage

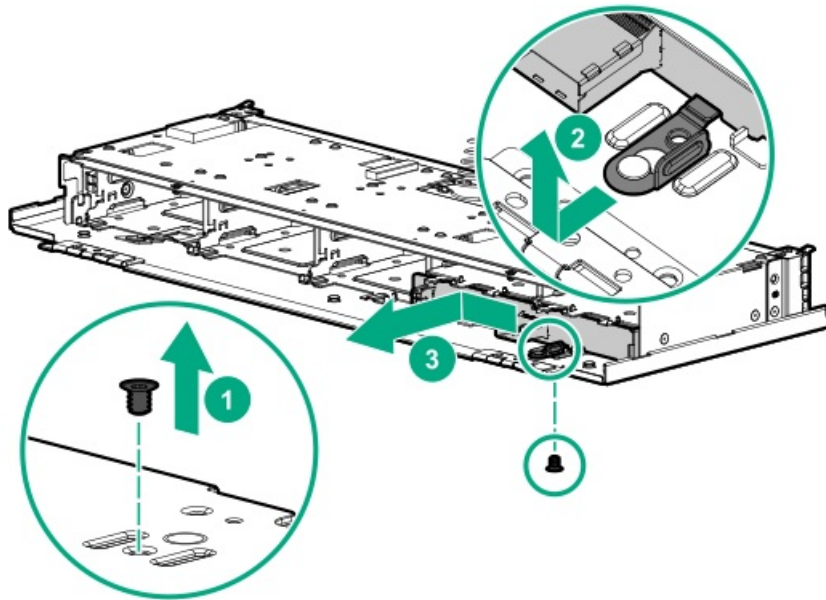


- Inner drive cage
 - a. Remove the bracket screw from the cage.

NOTE:

The screw is on the top side of the cage.

- b. Slide the bracket away from the backplane.
- c. Slide and pull out the backplane.



To replace the component, reverse the removal procedure.

Removing and replacing an 8SFF SAS/SATA or NVMe drive backplane

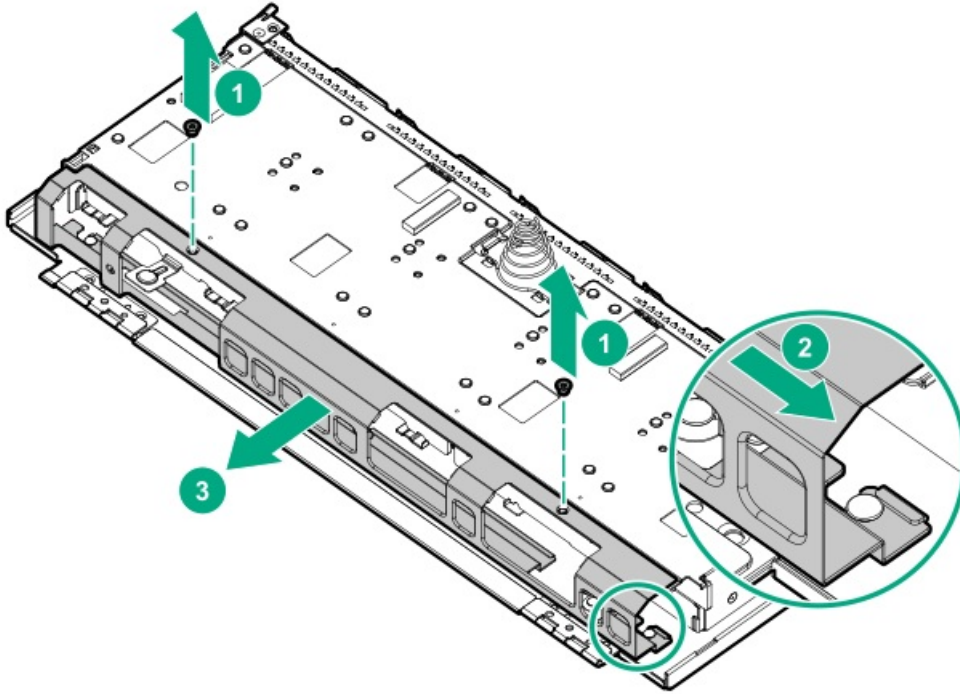
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

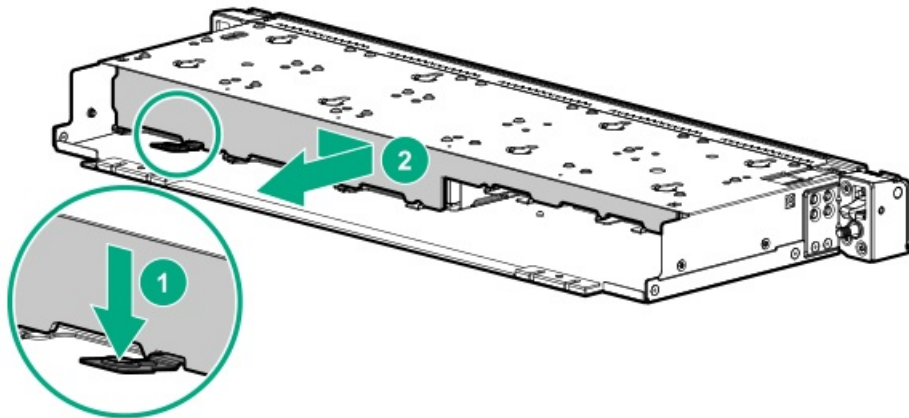
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove all drives connected to the drive backplane.
9. Disconnect all drive backplane cables to system board, controller card, or riser.
10. Do one of the following:
 - To replace the drive backplane of the outer drive cage (box 1):
 - a. If installed, remove the inner drive cage.
 - b. Remove the outer drive cage.
 - To replace the drive backplane of the inner drive cage (box 3), remove the inner drive cage.

11. Place the drive cage on a flat, level surface with its bottom side facing up.
12. Remove the cable guard:
 - a. Remove the screws.
 - b. Slide the cable guard horizontally to disengage it from the chassis.
 - c. Remove the cable guard.

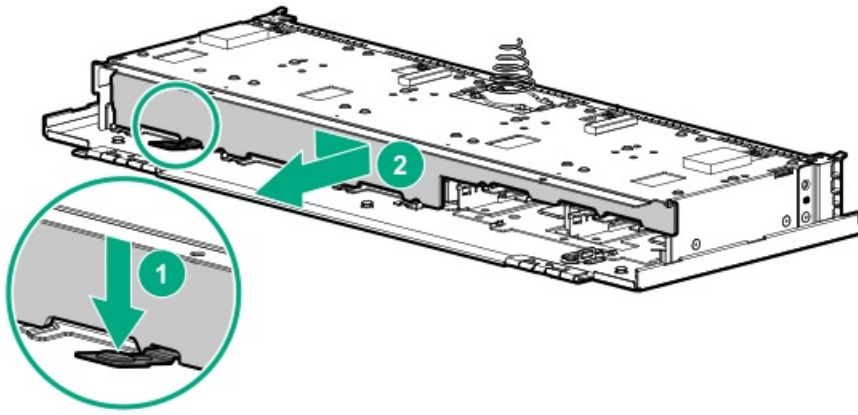


13. Disconnect all cables from the drive backplane.
14. Remove the 8SFF drive backplane.

- Outer drive cage



- Inner drive cage



To replace the component, reverse the removal procedure.

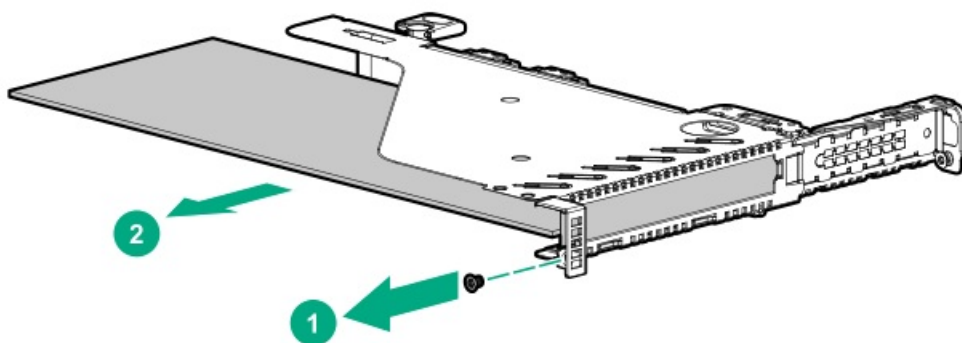
Removing and replacing an expansion board

Prerequisites

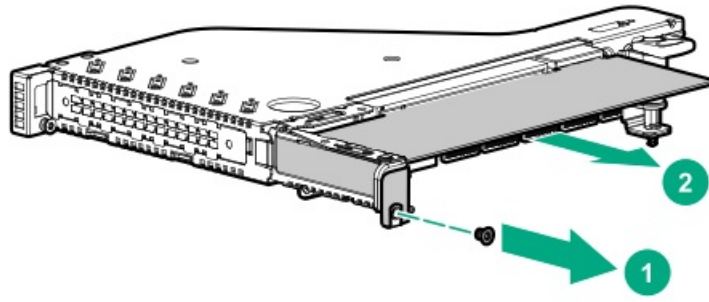
Before you perform this procedure, make sure that you have T-15 Torx screwdriver available.

Procedure

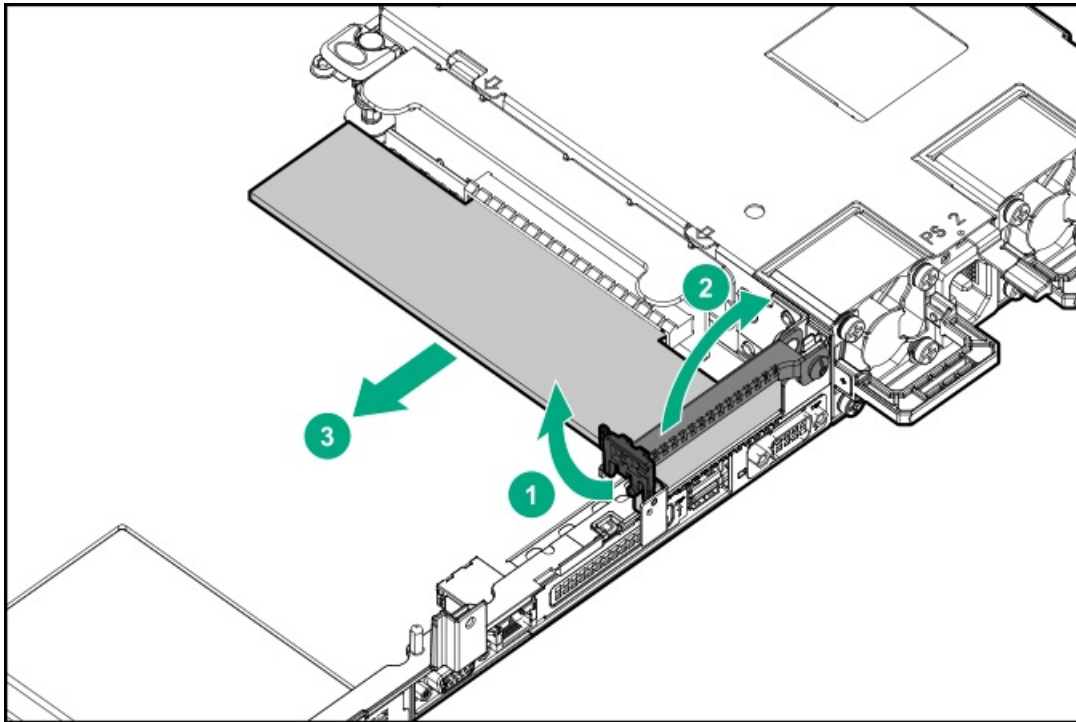
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If present, disconnect all cables from the expansion board.
8. If replacing the expansion board from the primary riser, remove the primary riser cage.
9. Remove the expansion board.
 - Primary riser slot 1



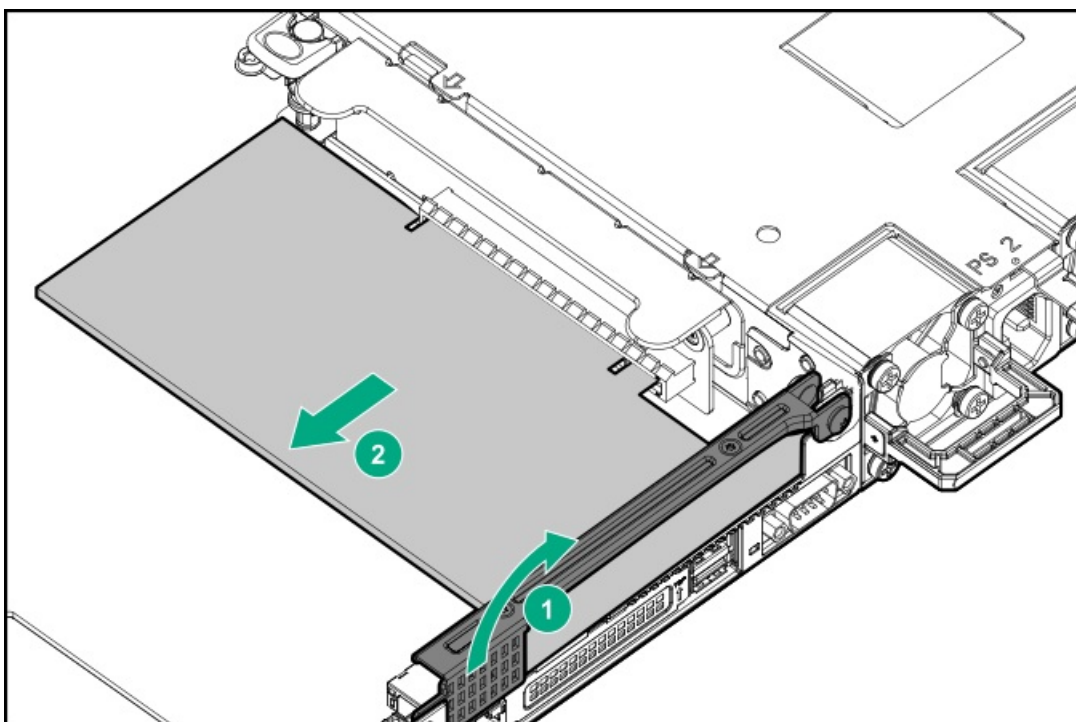
- Primary riser slot 2



- Secondary riser slot 3: low profile



- Secondary riser slot 3: full height



To replace the component, reverse the removal procedure.

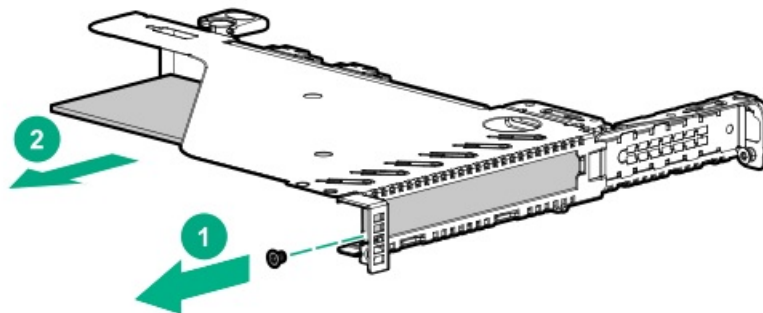
Removing and replacing the GPU

Prerequisites

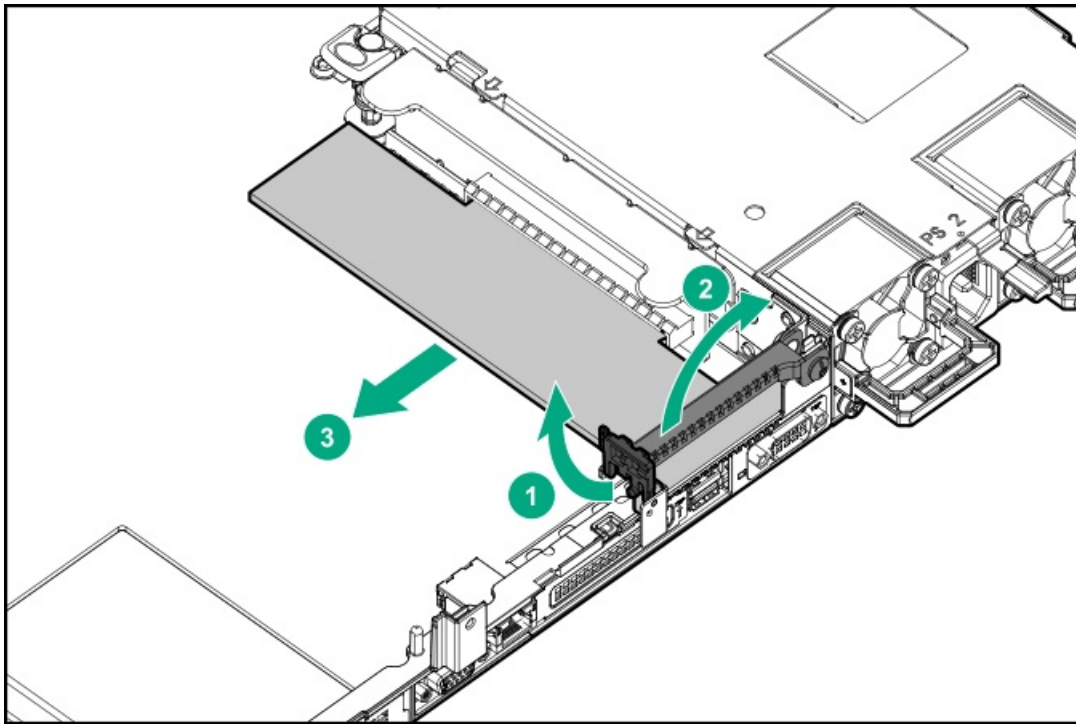
Before you perform this procedure, make sure that you have T-15 Torx screwdriver available.

Procedure

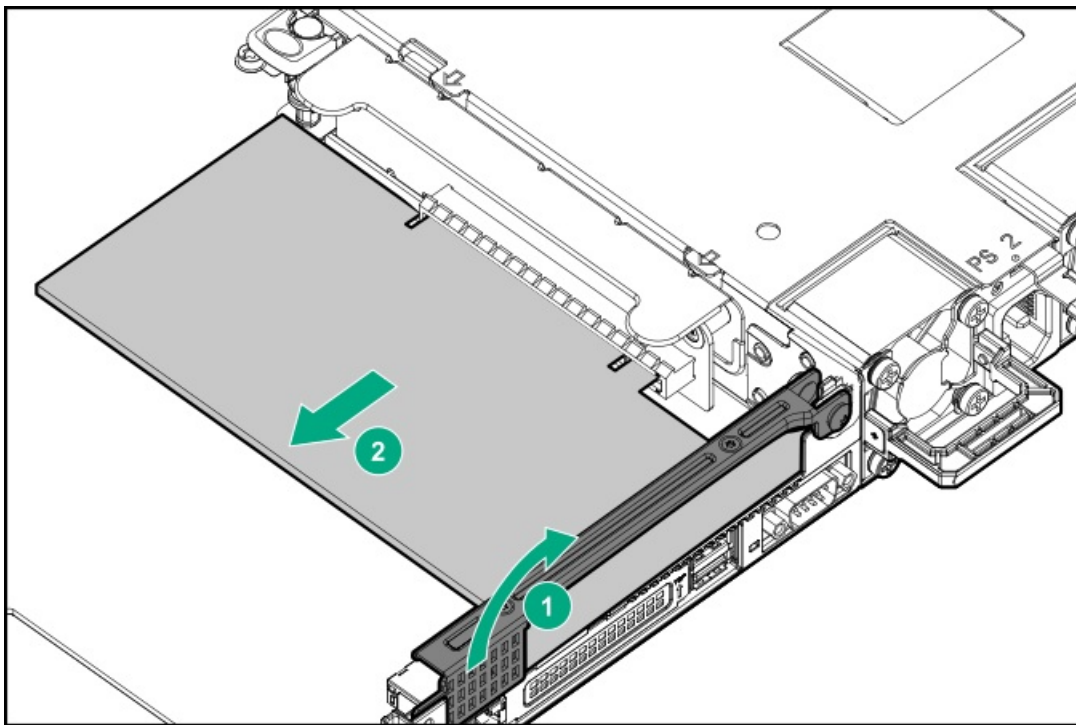
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If replacing the GPU from the primary riser, remove the primary riser cage.
8. Remove the GPU.
 - Primary riser slot 1



- Secondary riser slot 3: low profile

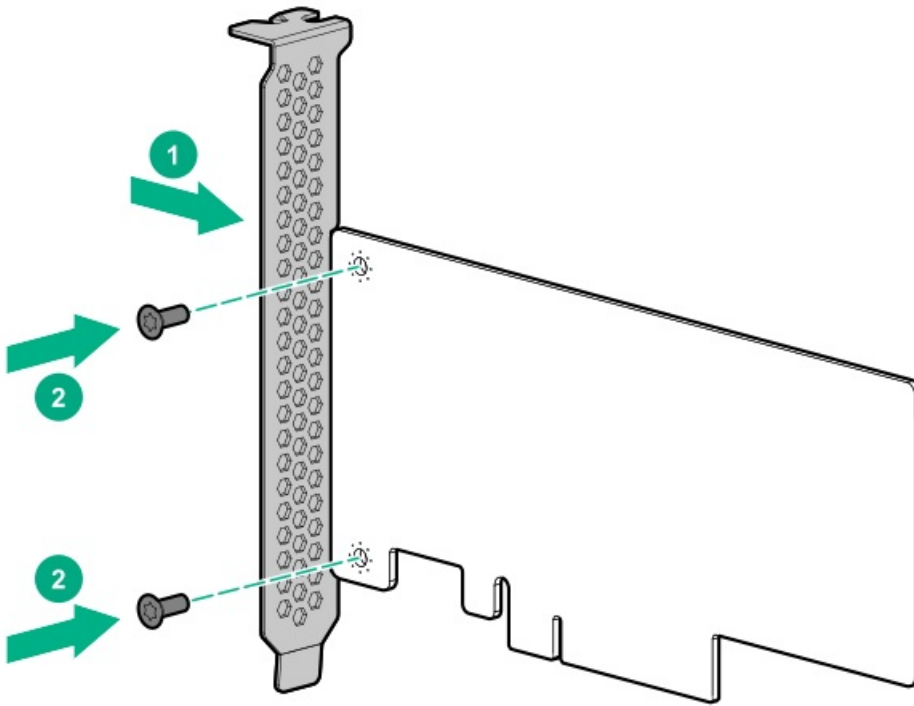


- Secondary riser slot 3: full height



To replace the GPU in primary riser slot 1, install the full-height bracket on the GPU if not installed already.
The screw type and location shown in the illustration might be different depending on the GPU option.





To replace the component, reverse the removal procedure.

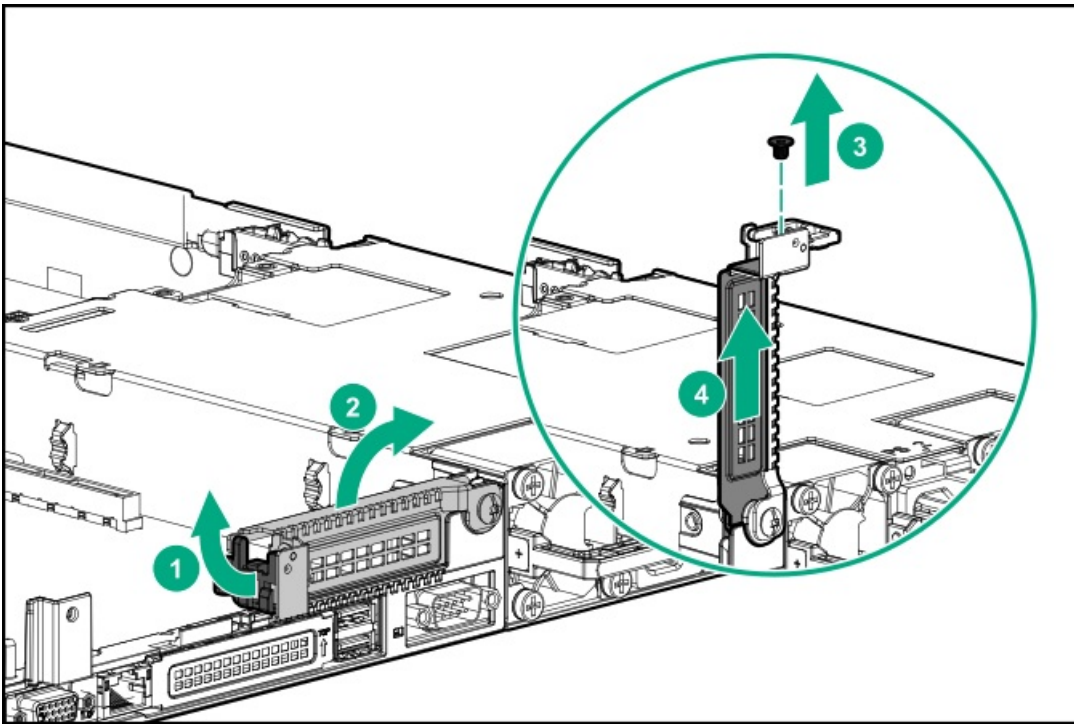
Removing and replacing the low-profile riser blank

Prerequisites

Before you perform this procedure, make sure that you have T-15 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the low-profile riser blank.



To replace the component, reverse the removal procedure.

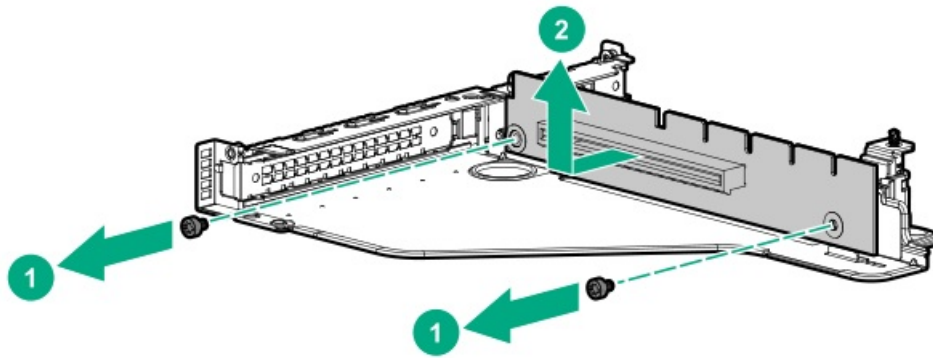
Removing and replacing the primary riser board

Prerequisites

Make sure that you have a T-15 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If present, disconnect all cables from the expansion board.
8. If installed, remove expansion board from the secondary riser cage.
9. Remove the primary riser cage.
10. If installed, remove all expansion boards from the primary riser board.
11. Remove the riser board.

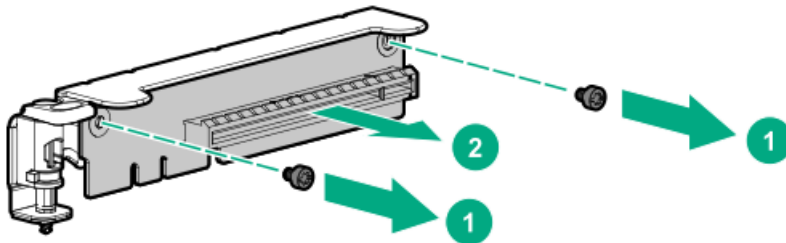


To replace the component, reverse the removal procedure.

Removing and replacing the secondary riser board

Procedure

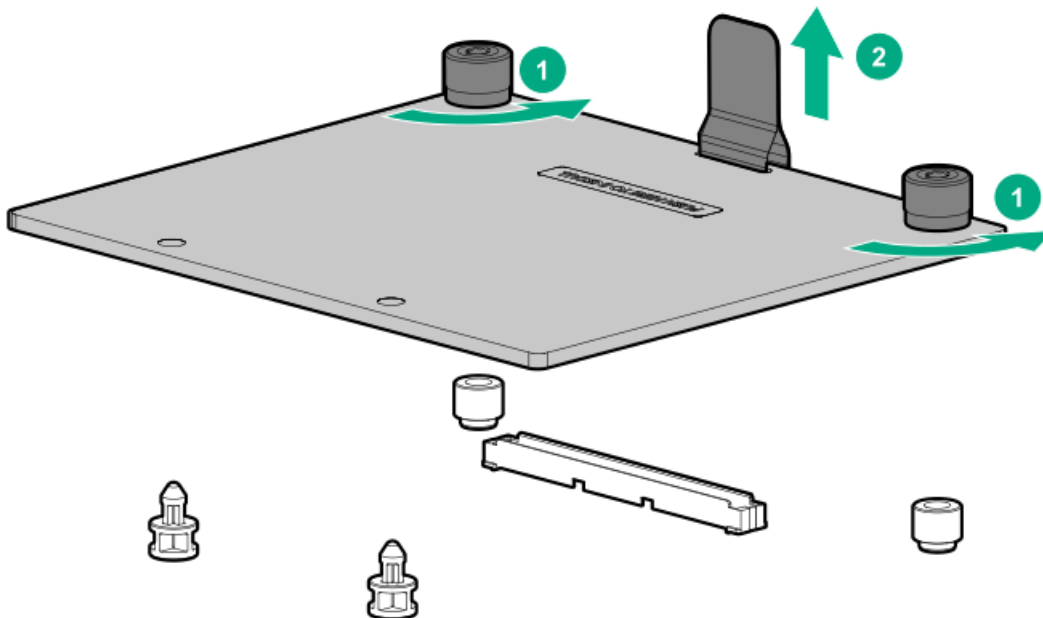
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If present, disconnect all cables from the expansion board.
8. If installed, remove expansion board from the secondary riser cage.
9. Remove the secondary riser cage.
10. If installed, remove all expansion boards from the primary riser board.
11. Remove the riser board.



Removing and replacing the Smart Array type-a modular controller or 1-port NVMe adapter

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Disconnect all cables from the type-a controller or 1-port NVMe adapter.
8. Remove the type-a modular controller or 1-port NVMe adapter.



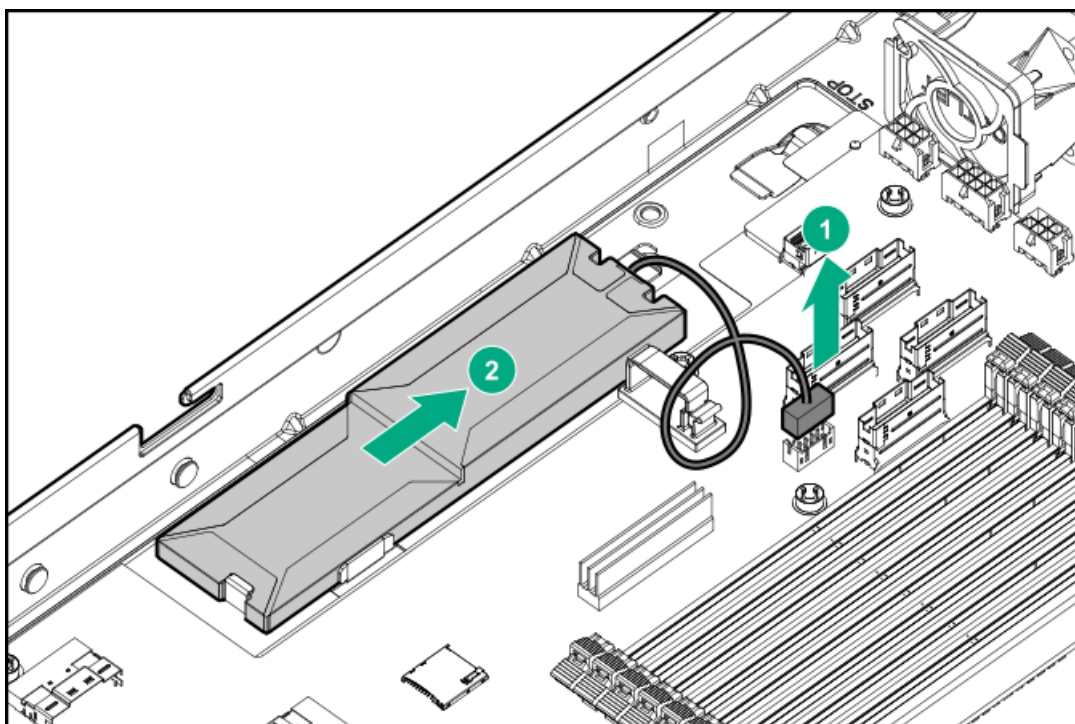
To replace the component, reverse the removal procedure.

Removing and replacing an energy pack

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.

7. Remove the energy pack holder.
8. Release the energy pack cable from the cable clip.
9. Disconnect the energy pack cable from the system board and then remove the energy pack.

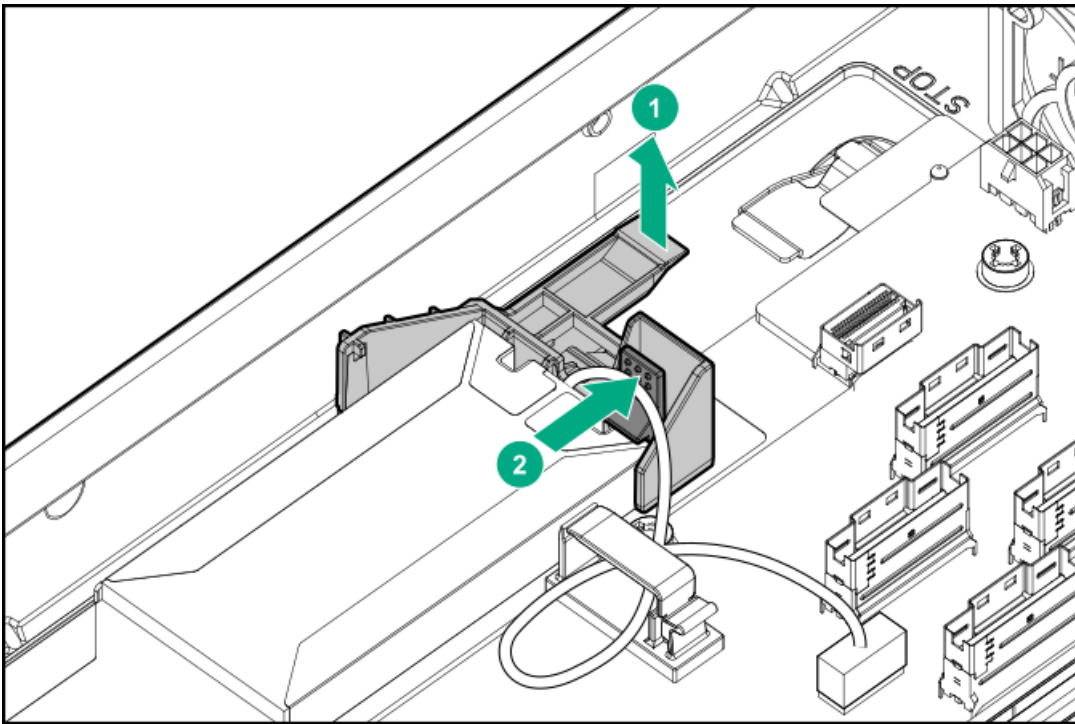


To replace the component, reverse the removal procedure.

Removing and replacing the energy pack holder

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Lift and slide the energy pack holder to disengage it from the notch and then remove it.



To replace the component, reverse the removal procedure.

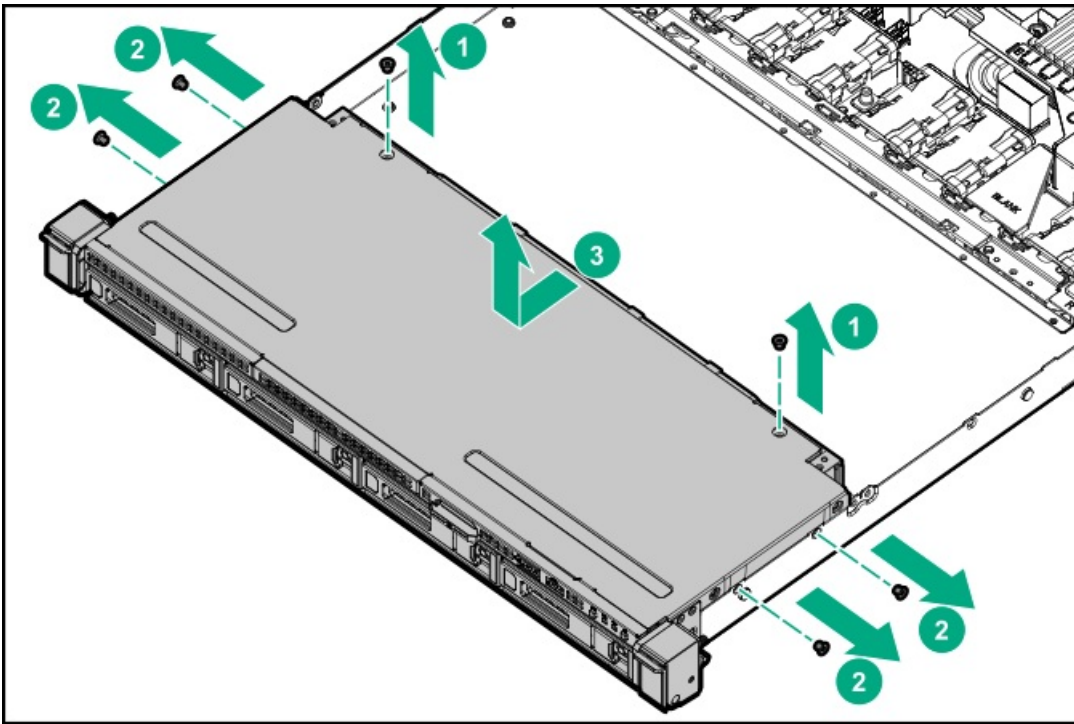
Removing and replacing an optical drive blank from the LFF drive chassis

Prerequisites

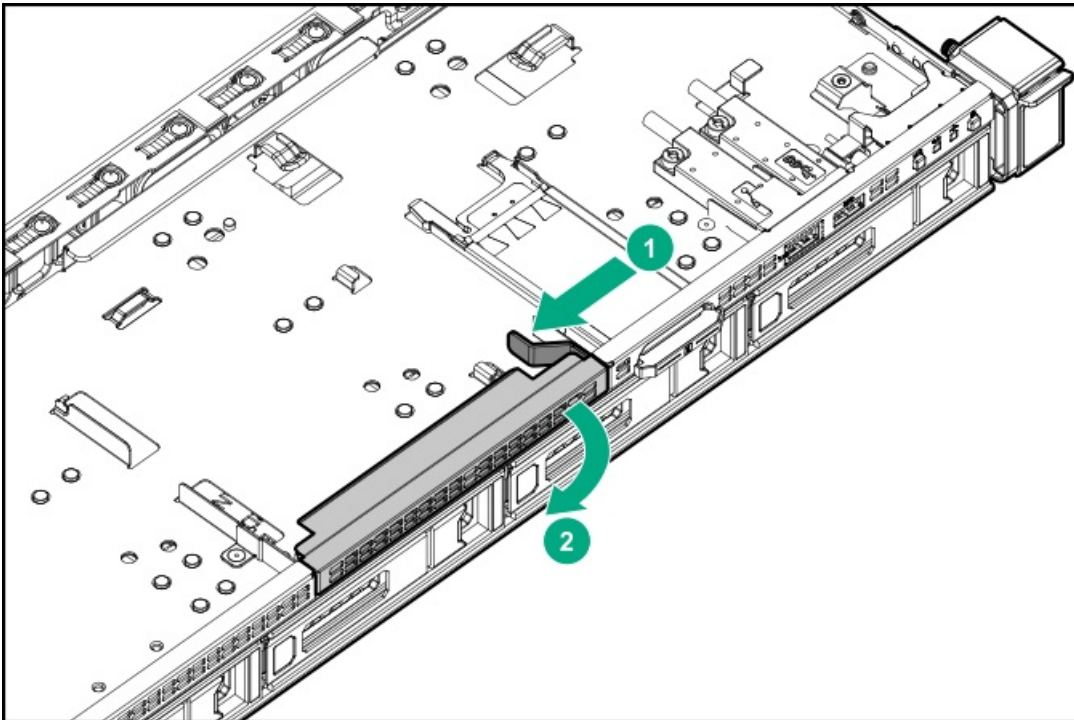
Before you perform this procedure, make sure that you have T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the outer drive cage cover.



8. Remove the optical drive blank.



To replace the component, reverse the removal procedure.

Removing and replacing an optical drive blank from the SFF drive chassis

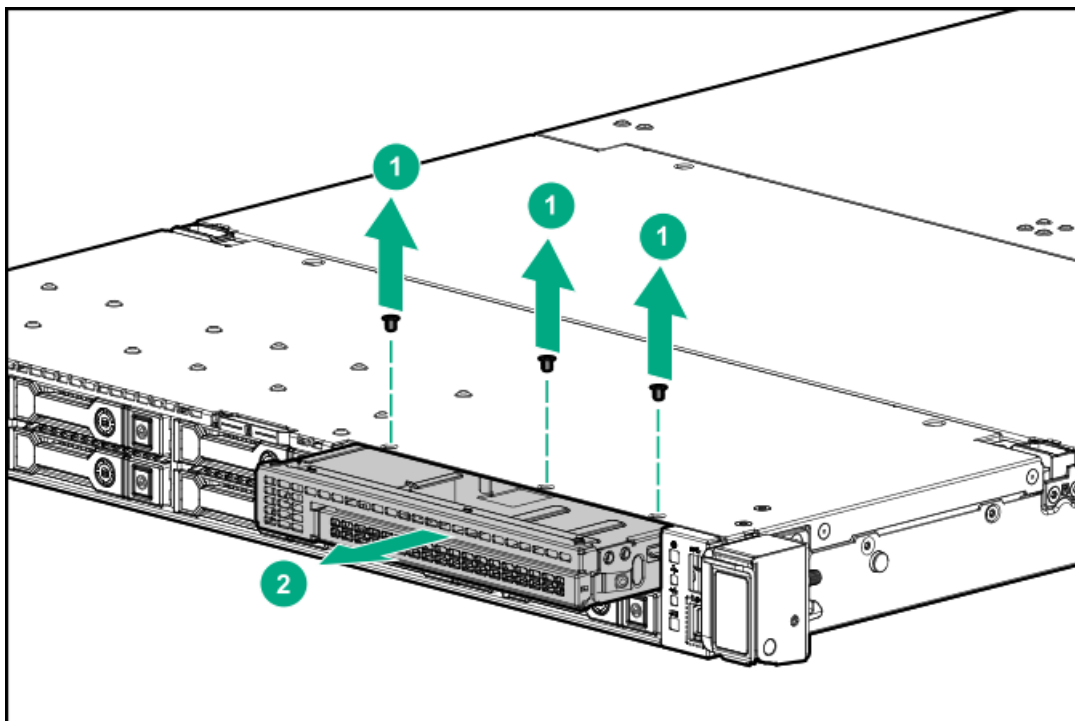
Prerequisites

Before you perform this procedure, make sure that you have T-10 Torx screwdriver available.

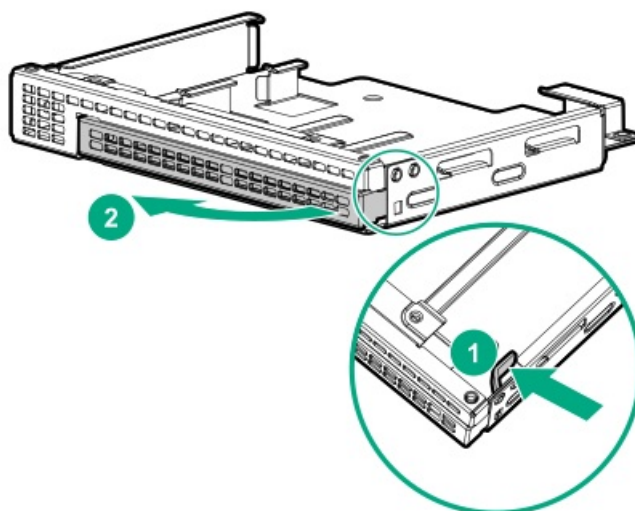
Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the optical drive cage.



8. Remove the optical drive blank.



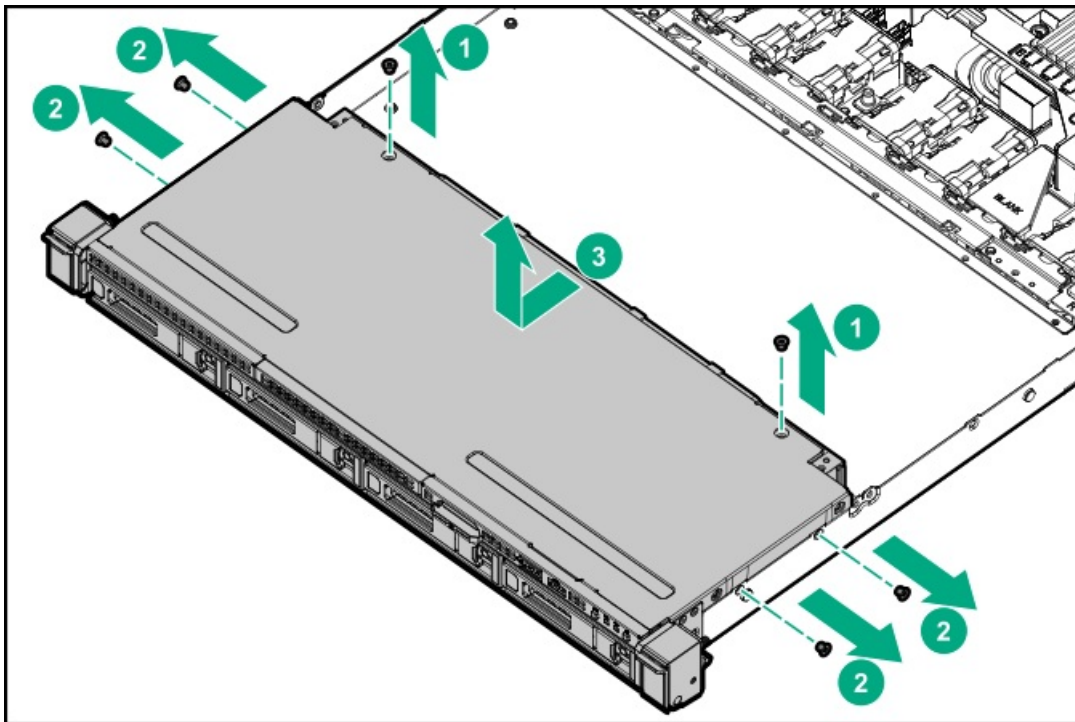
Removing and replacing an optical drive from the LFF drive chassis

Prerequisites

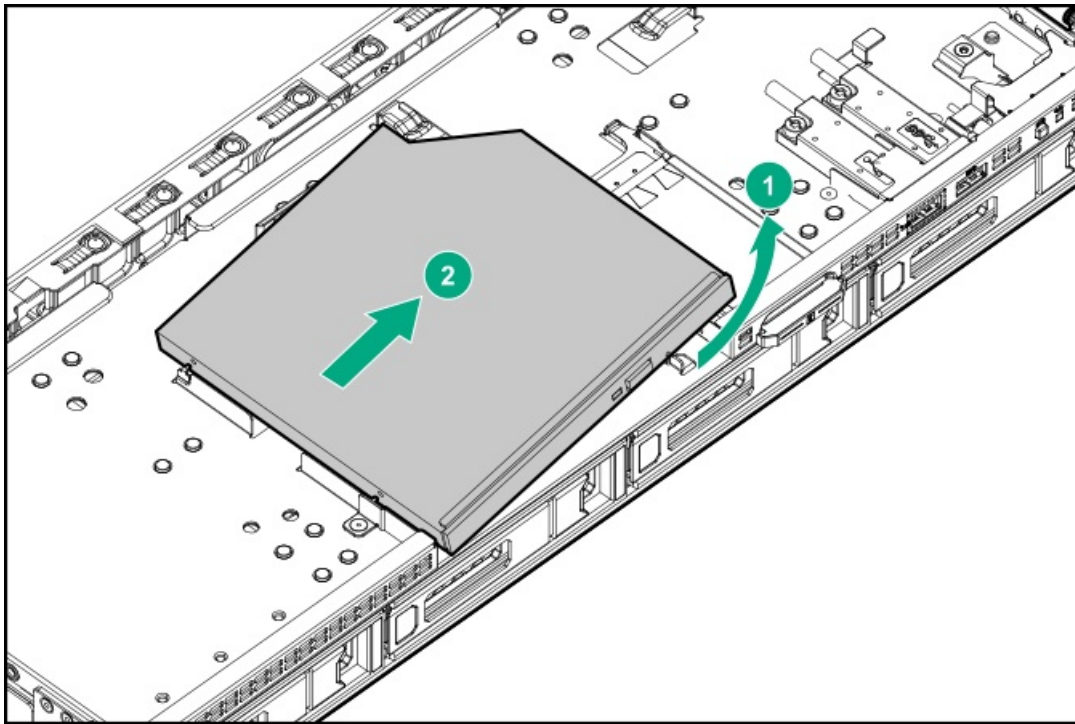
Before you perform this procedure, make sure that you have T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove the optical drive:
 - a. Remove the outer drive cage cover.



- b. Disconnect all cables from the optical drive.
- c. Remove the optical drive.



To replace the component, reverse the removal procedure.

Removing and replacing an optical drive from the SFF drive chassis

Prerequisites

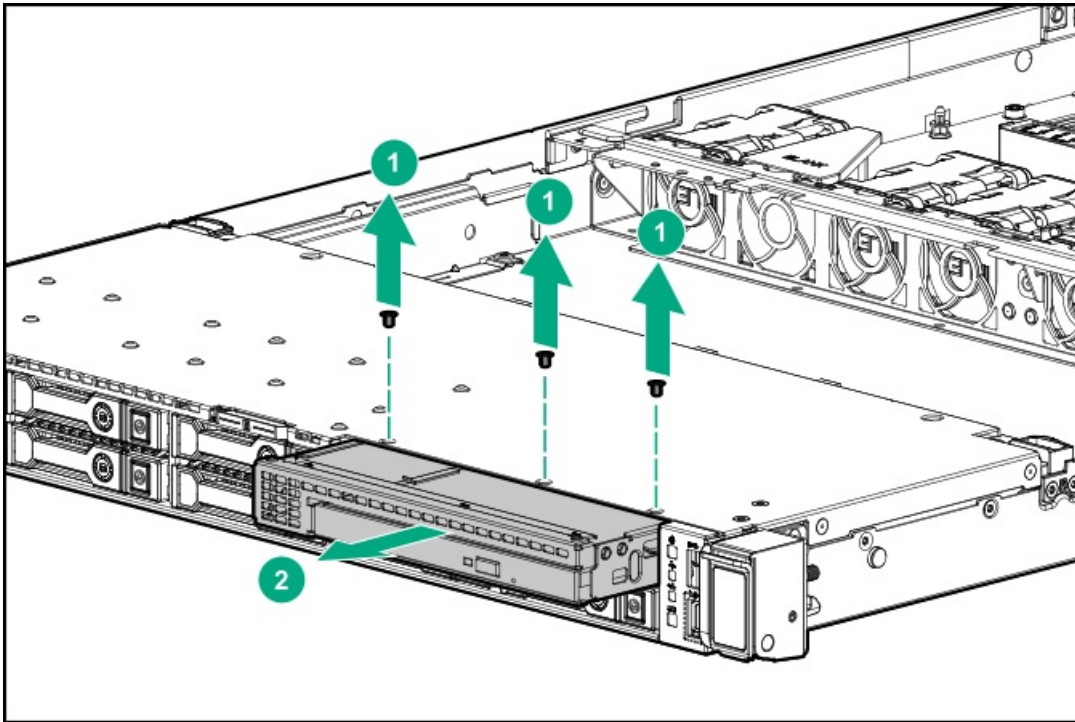
Before you perform this procedure, make sure that you have T-10 Torx screwdriver available.

Procedure

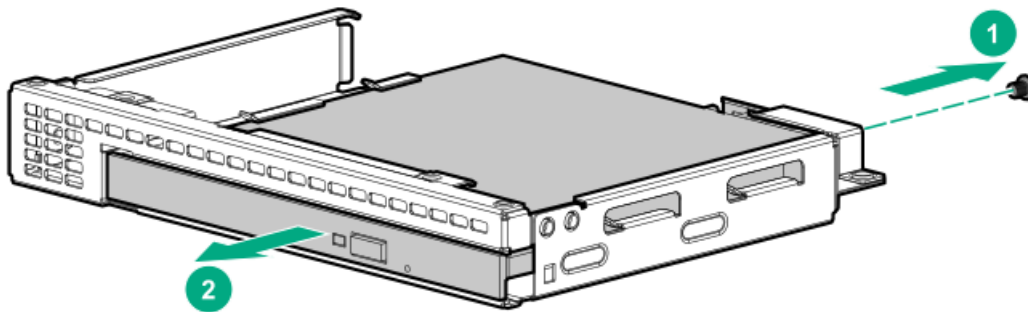
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove the optical drive:

Do one of the following:

 - Remove the inner drive cage.
 - Remove the inner drive cage blank.
 - a. Disconnect optical drive cable from the system board.
 - b. Remove the optical drive cage.



- c. Disconnect all cables from the optical drive.
- d. Remove the optical drive.



To replace the component, reverse the removal procedure.

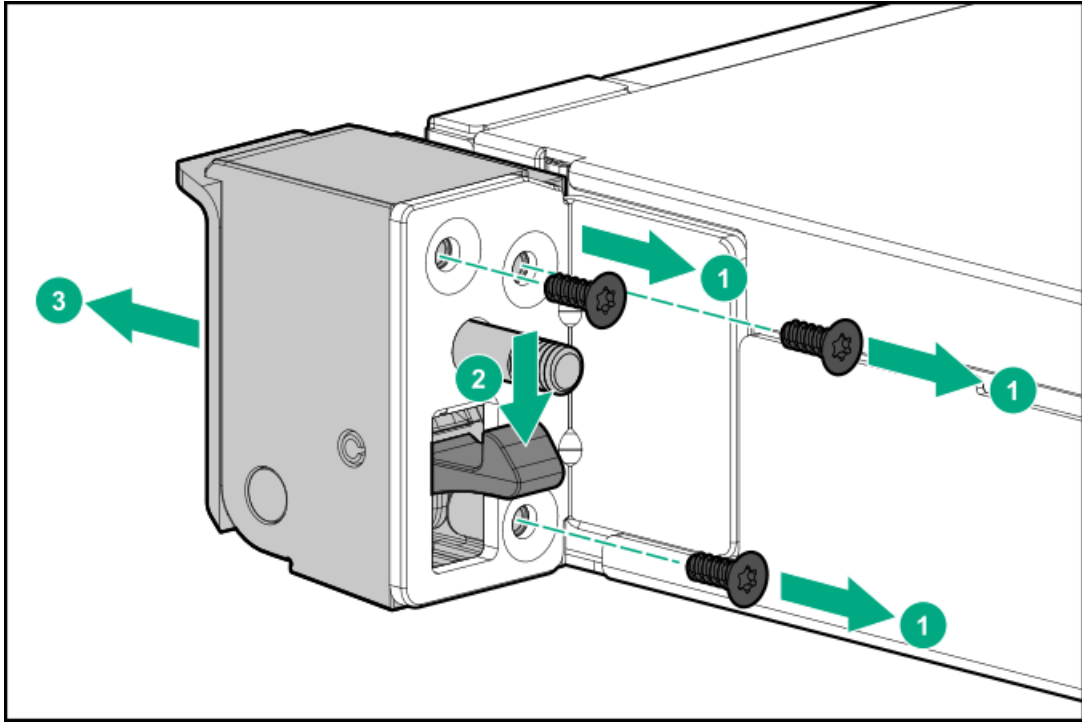
Removing and replacing a chassis ear

Prerequisites

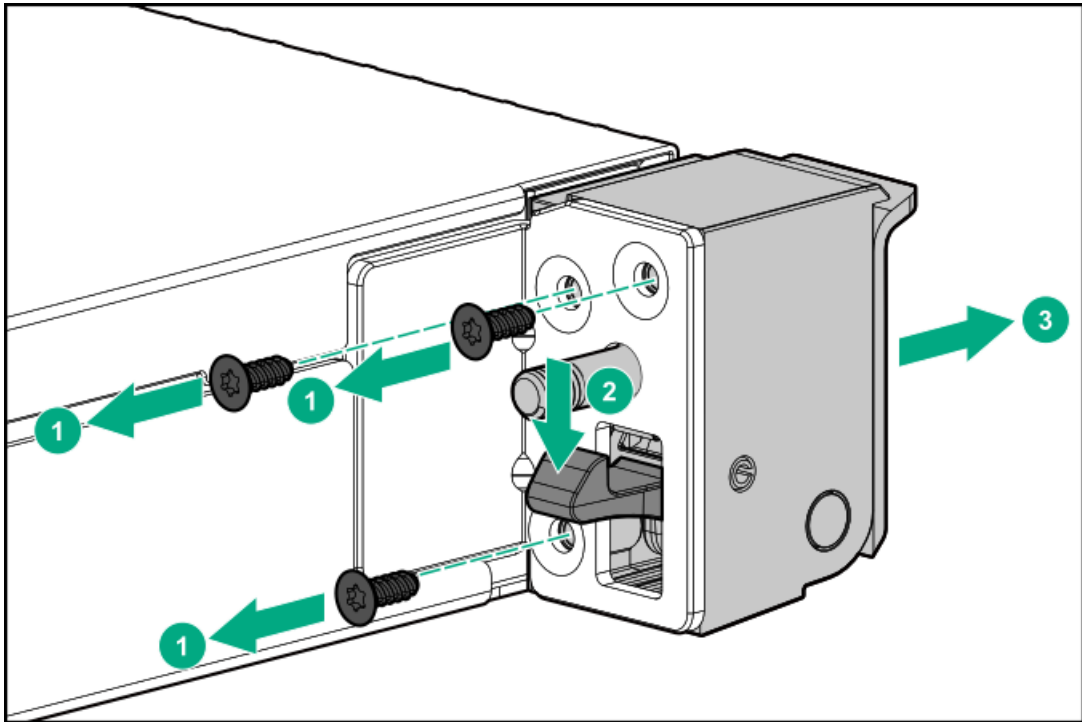
Before you perform this procedure, make sure that you have an electric screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Extend the server from the rack.
3. Remove the chassis ear.
 - Right ear

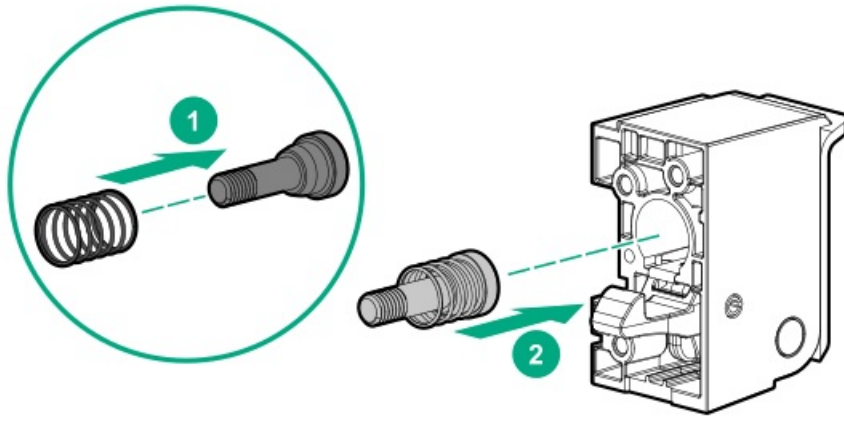


- Left ear



Before installing the new ear, install a spring and a screw in the ear and attach the label to the front of the ear.





To replace the component, reverse the removal procedure.

Removing and replacing the LFF front I/O assembly

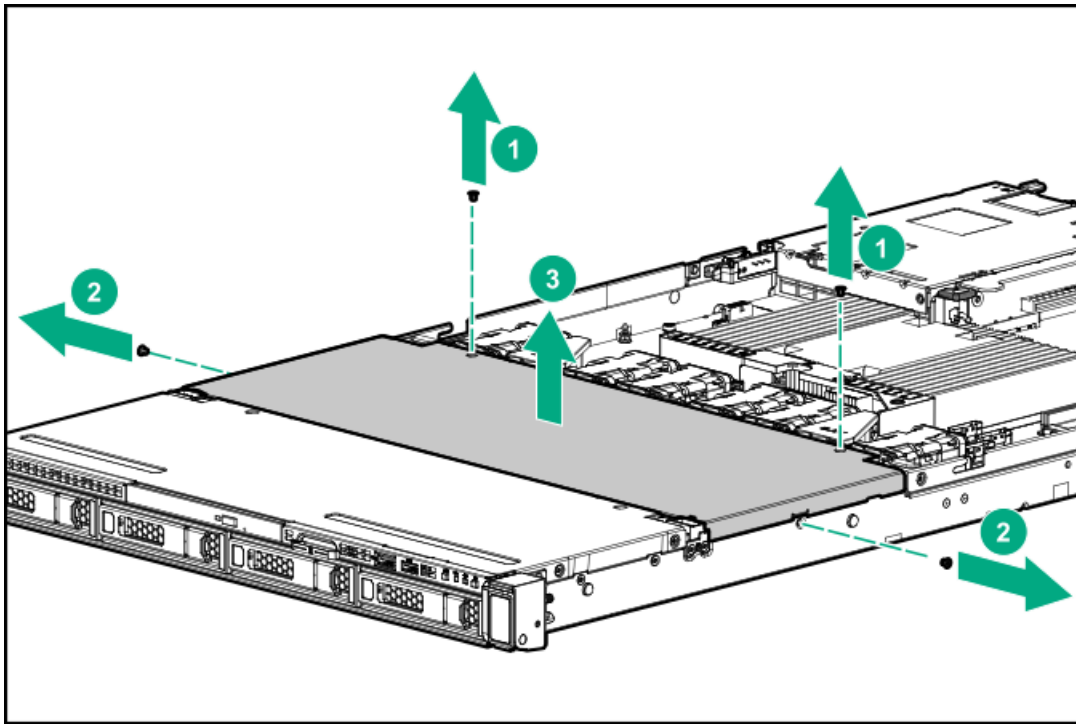
Prerequisites

Before you perform this procedure, make sure that you have the following items available:

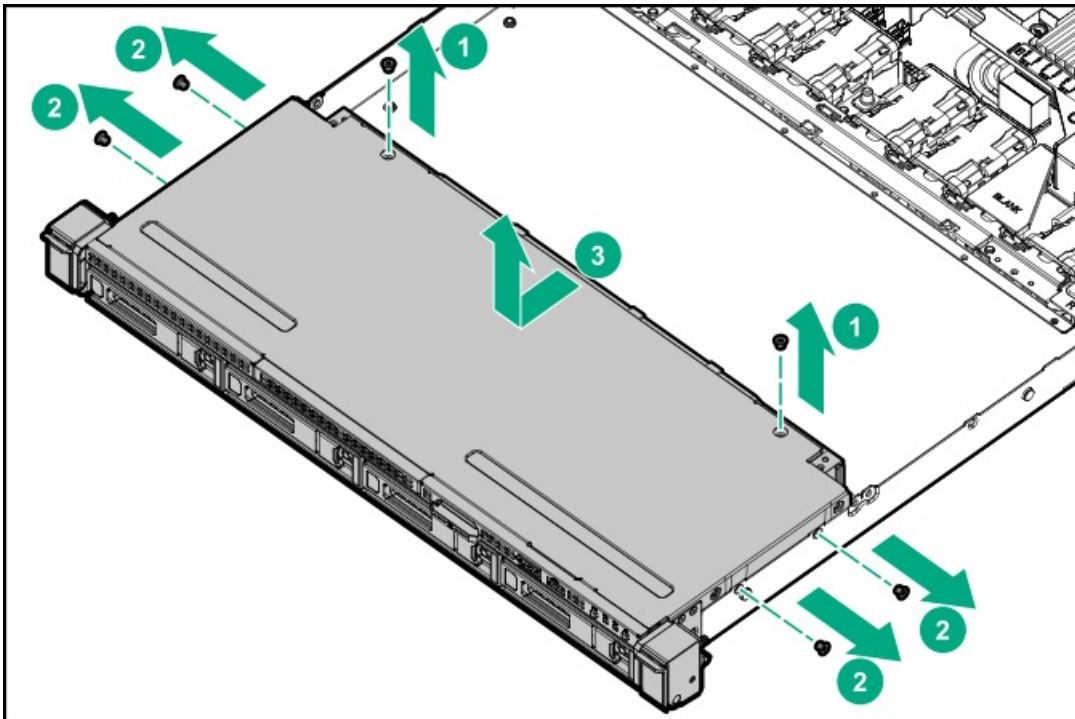
- T-10 Torx screwdriver
- T-15 Torx screwdriver

Procedure

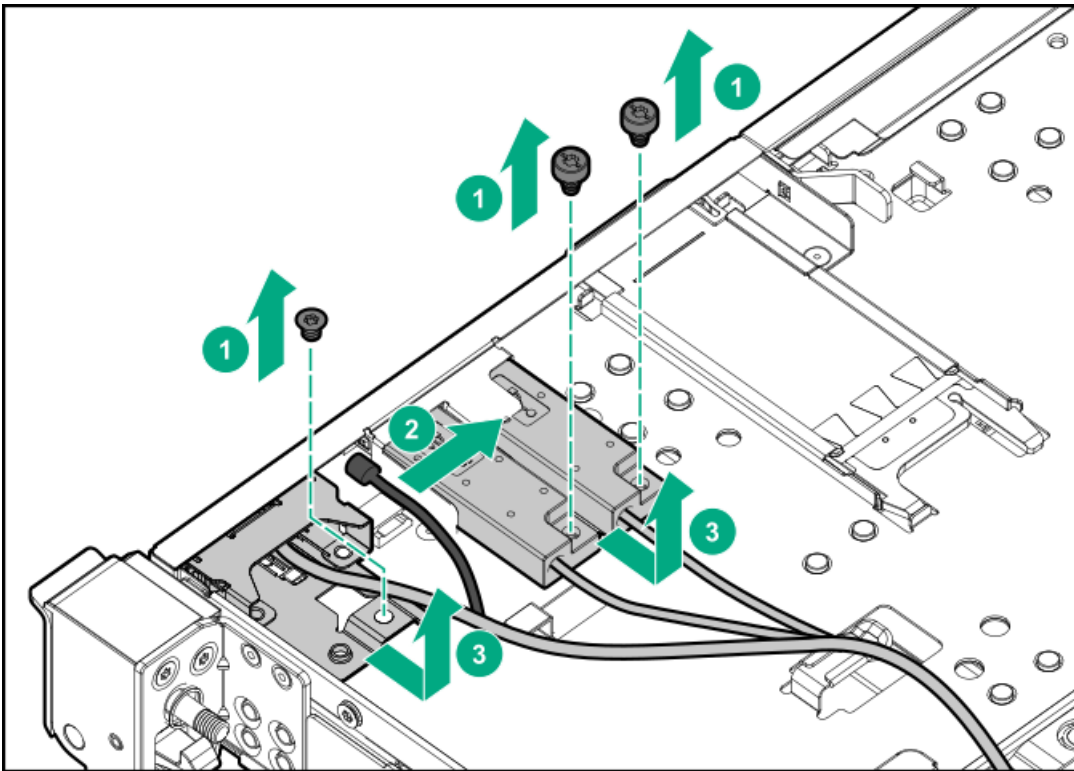
1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Disconnect the front I/O cable from the system board.
9. Do one of the following:
 - Remove the inner drive cage.
 - Remove the inner drive cage blank.



10. Remove the outer cage top cover.



11. Release the front I/O cable from the clips.
12. Remove the front I/O assembly.
 - a. Remove screws.
 - b. Detach the ambient thermal sensor cable from its clip.
 - c. Remove the front I/O module.



To replace the component, reverse the removal procedure.

Removing and replacing the SFF front I/O assembly

Prerequisites

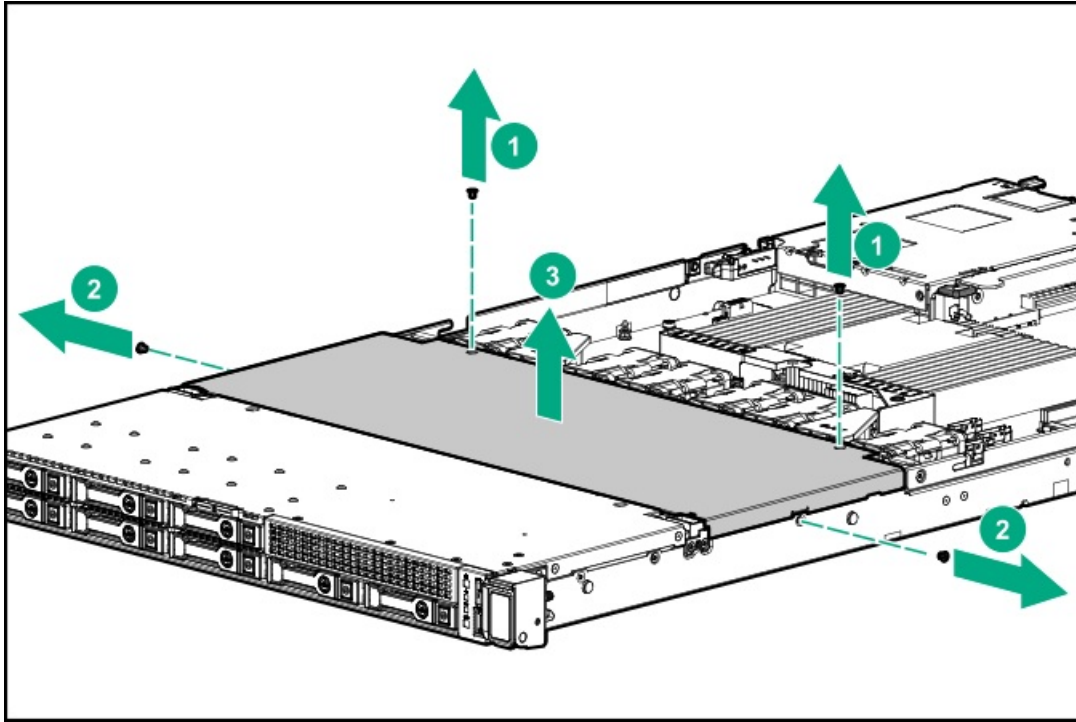
Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- T-15 Torx screwdriver

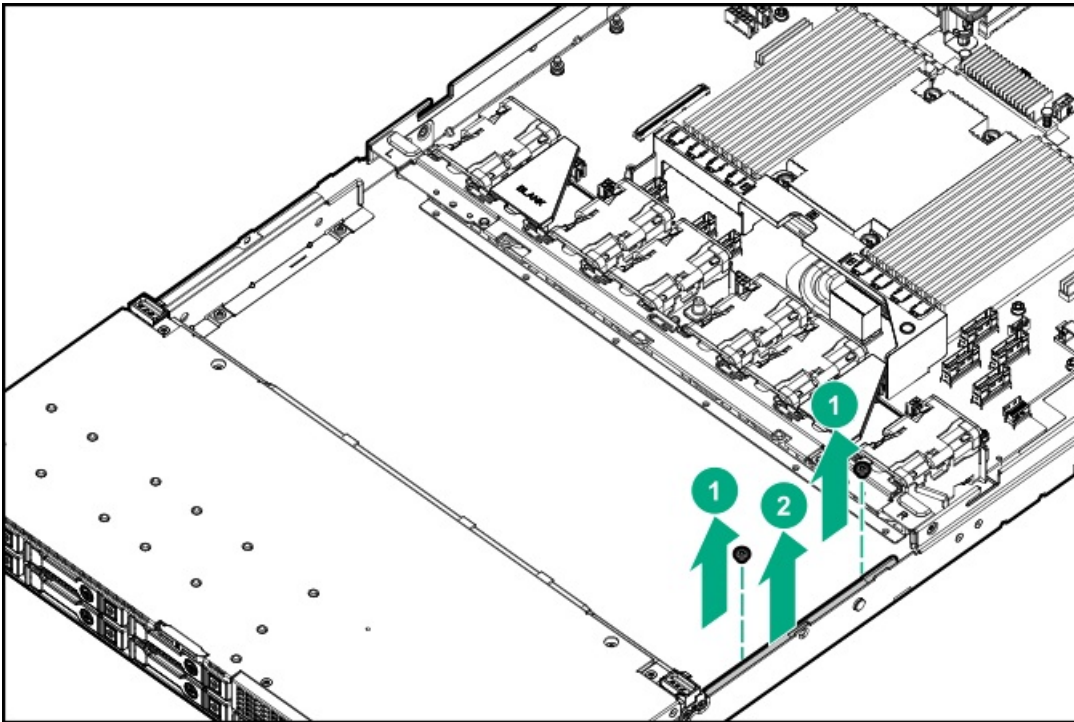
Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Disconnect the front I/O cable from system board.
9. Do one of the following:
 - Remove the inner drive cage.

- Remove the inner drive cage blank.

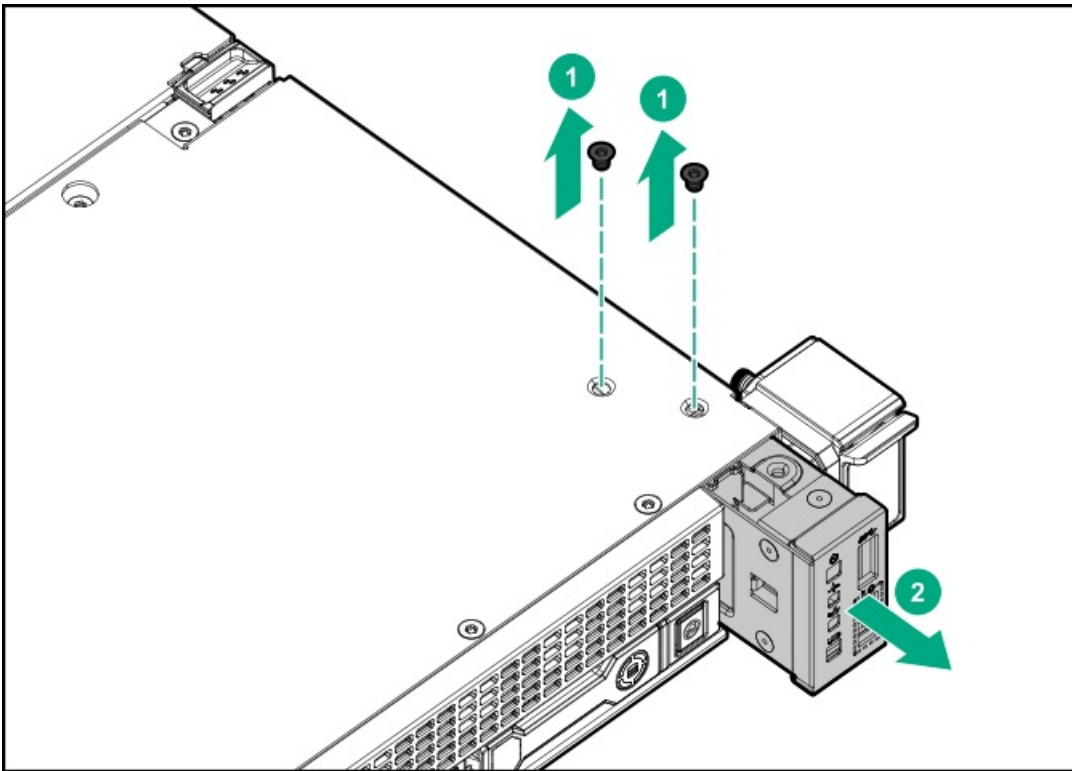


10. Remove the right cable cover.

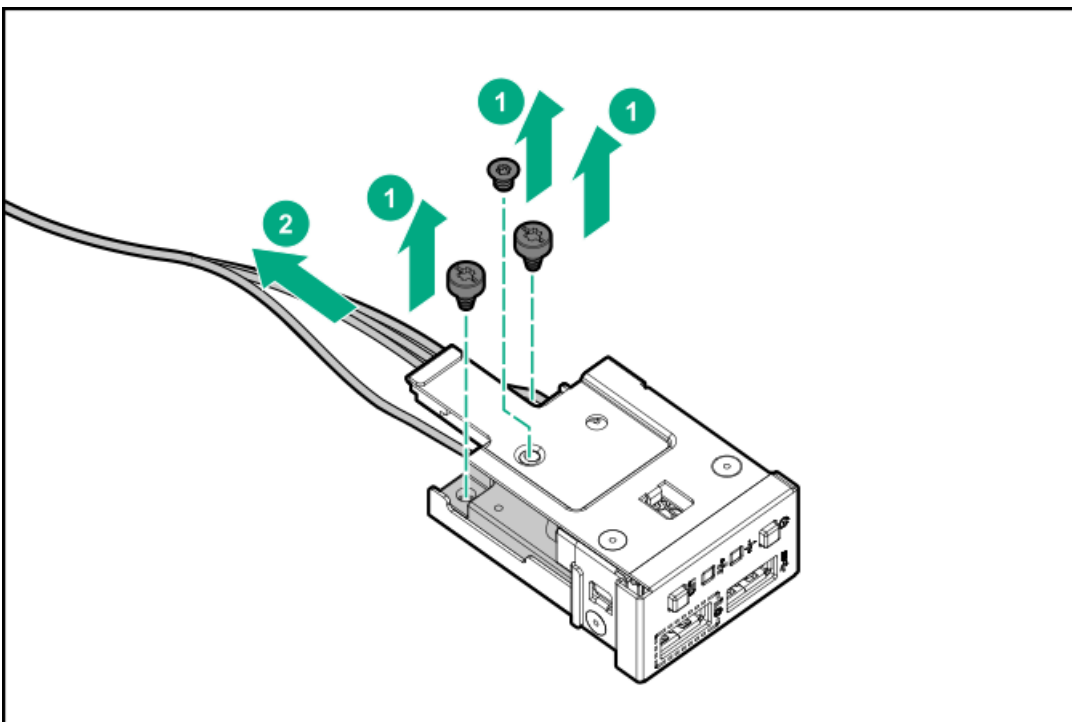


11. Remove the front I/O module.





12. Remove the front I/O cables.



To replace the component, reverse the removal procedure.

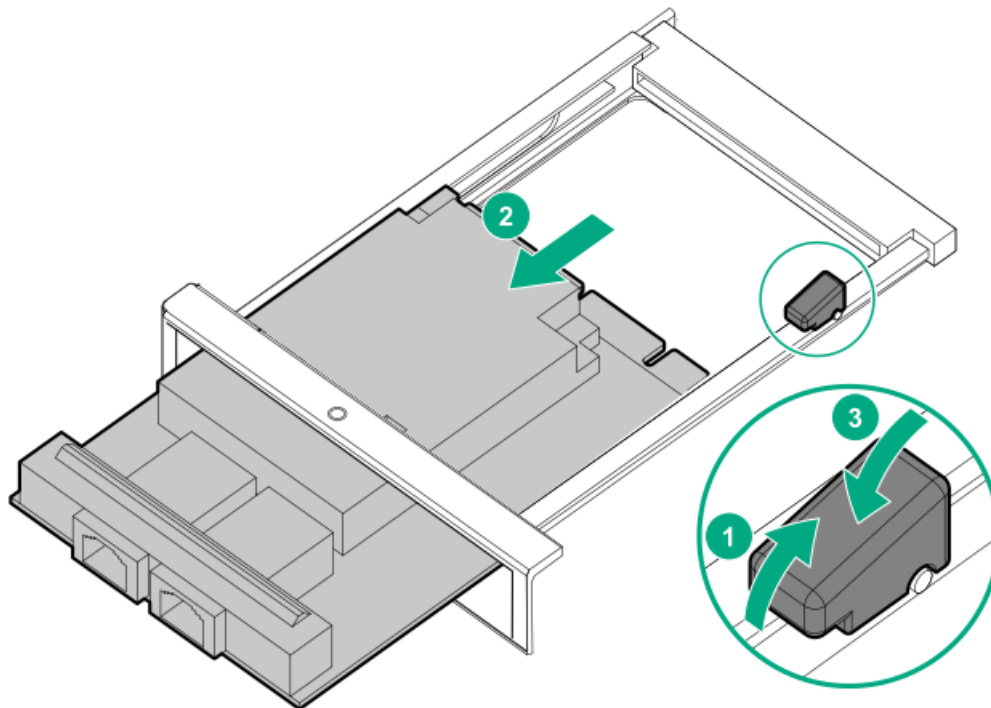
Removing and replacing the OCP NIC 3.0 adapter

△ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the primary riser cage.
8. Remove the OCP NIC 3.0 adapter.
 - a. Lift the locking pin that secures the adapter to the slot.
 - b. Slide the OCP NIC 3.0 adapter out of the slot.
 - c. Close the locking pin.



To replace the component, reverse the removal procedure.

Removing and replacing the OCP NIC 3.0 adapter rails

⚠ CAUTION:

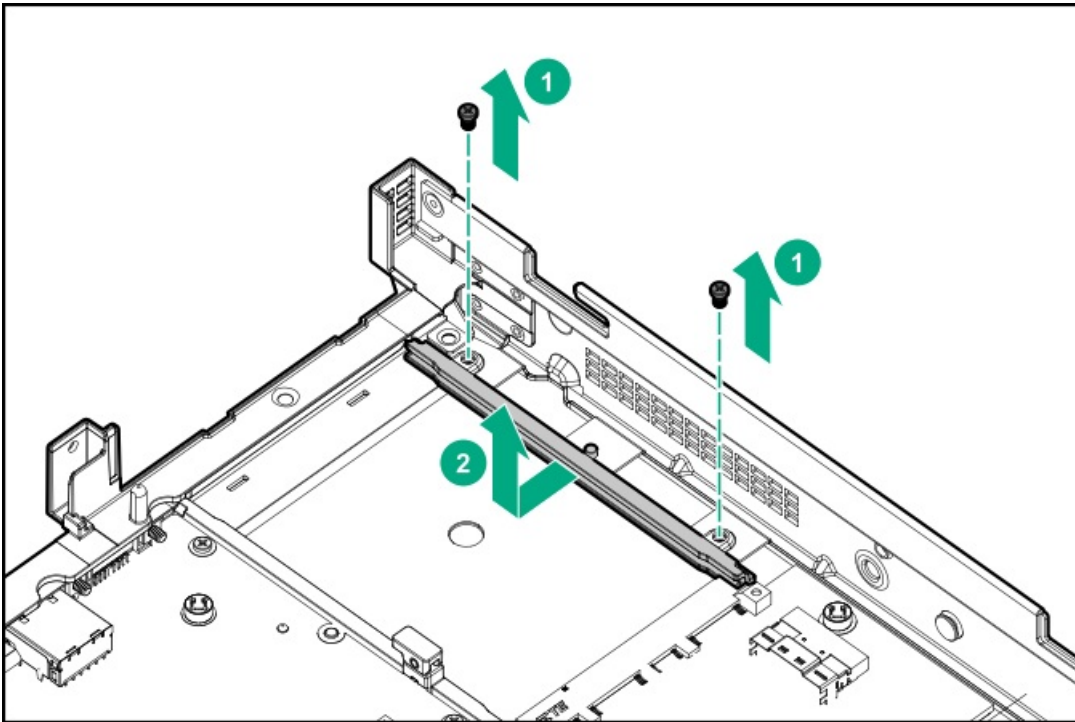
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Prerequisites

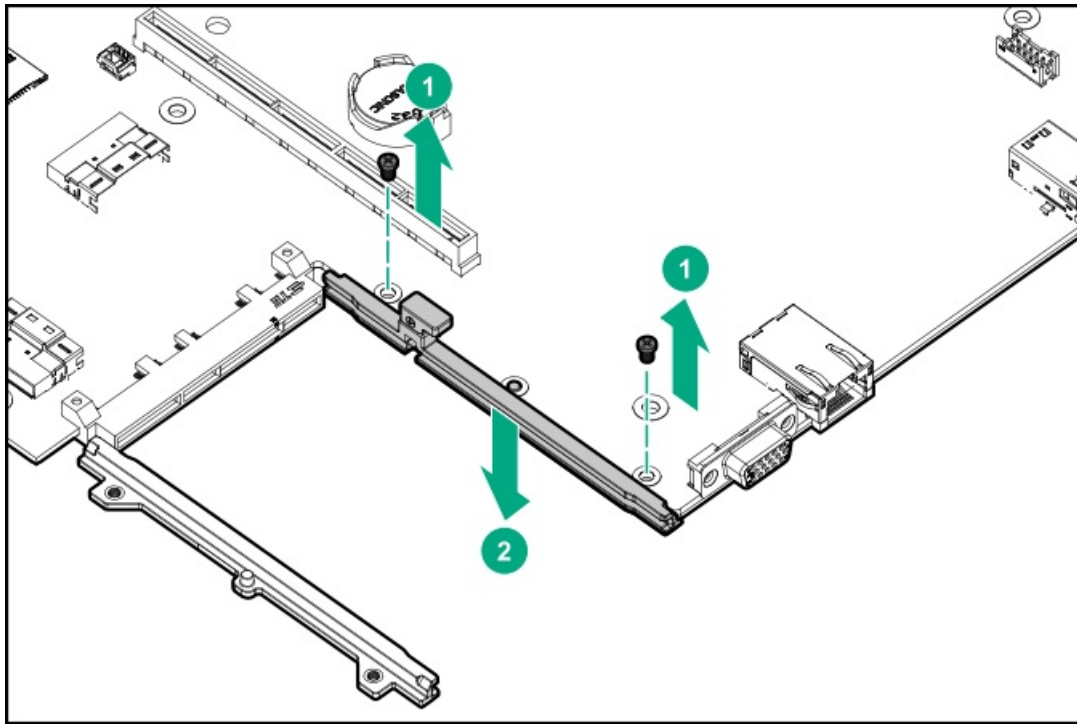
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the inner rack rails.
7. Remove the access panel.
8. Remove the primary riser cage.
9. If installed, remove the OCP NIC 3.0 adapter.
10. Remove the left OCP NIC 3.0 adapter rail.



11. To remove the right OCP rail:
 - a. Remove the system board.
 - b. Remove the rail.



To replace the component, reverse the removal procedure.

HPE NS204i-p NVMe OS Boot Device replacement

- [Removing and replacing the boot device](#)
- [Removing and replacing a boot device drive](#)
- [Relocating the M.2 drive retaining latches](#)

Removing and replacing the boot device

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

1. Observe the following alerts:

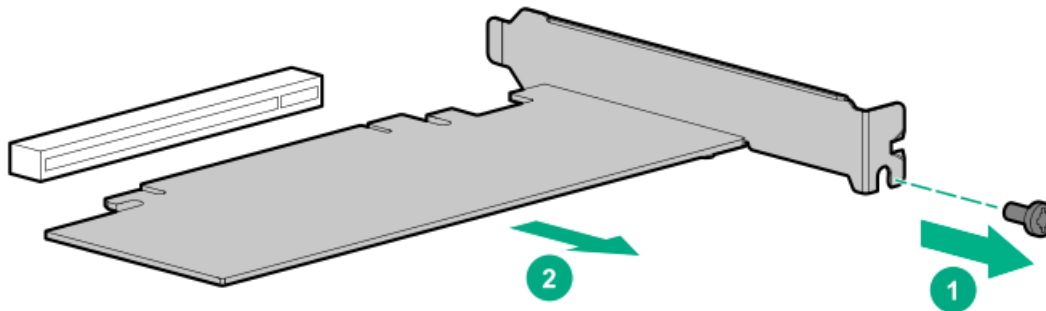
⚠ CAUTION:

The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

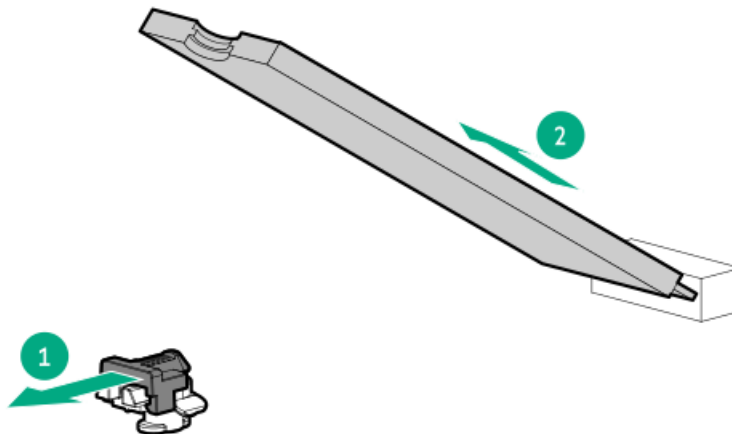
⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

2. Back up all server data.
3. If installed, [remove the bezel](#).
4. [Power down the server](#).
5. Remove all power:
 - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
6. Disconnect all peripheral cables from the server.
7. Remove the server from the rack.
8. Remove the access panel.
9. Remove the riser cage.
10. Remove the boot device.



11. Remove the M.2 NVMe SSDs from the boot device.



Retain these SSDs for installation onto the new boot device.

To replace the component, reverse the removal procedure.

Removing and replacing a boot device drive

The boot device supports two physical drive sizes:

- 22110 (110 mm)
- 2280 (80 mm)

Two drives of the same physical size, or one of each size, can be installed at the same time. Depending on the replacement drive size, you might need to relocate the M.2 drive retaining latches on the boot device.

Prerequisites

Review the boot device drive bay LEDs to determine the failed drive.

Procedure

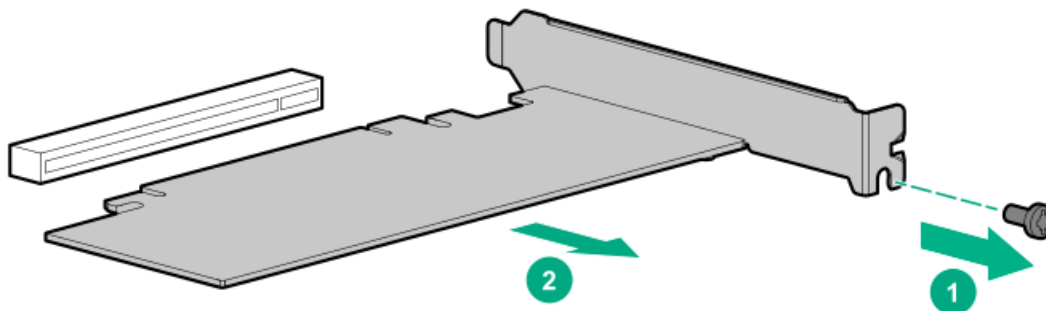
1. Observe the following alerts:

⚠ CAUTION:

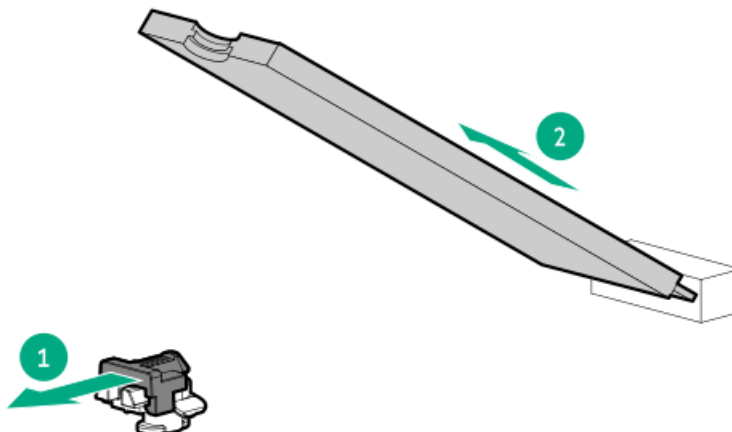
The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

2. Back up all server data.
3. If installed, remove the bezel.
4. Power down the server.
5. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
6. Disconnect all peripheral cables from the server.
7. Remove the server from the rack.
8. Remove the access panel.
9. Remove the riser cage.
10. Remove the boot device.



11. Remove the M.2 NVMe SSD from the boot device.

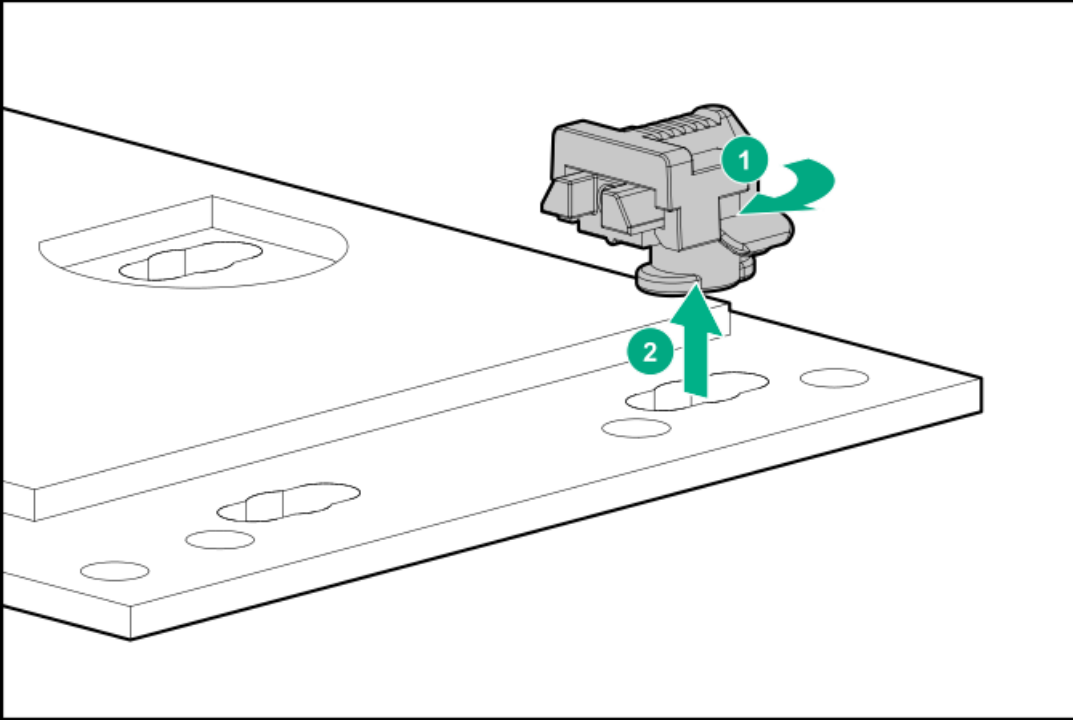


To replace the component, reverse the removal procedure.

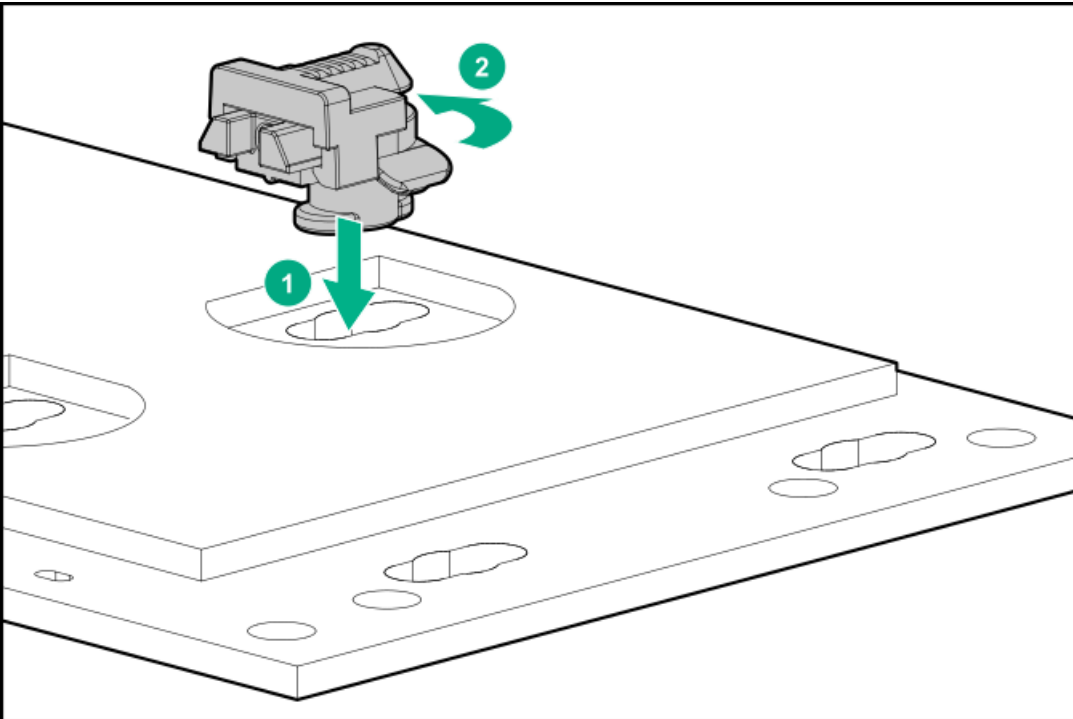
Relocating the M.2 drive retaining latches

Procedure

1. If your spare kit includes an 80 mm replacement drive, remove the retaining latch from its current location.



2. Install the retaining latch at the 80 mm drive location.



Removing and replacing the serial port cable

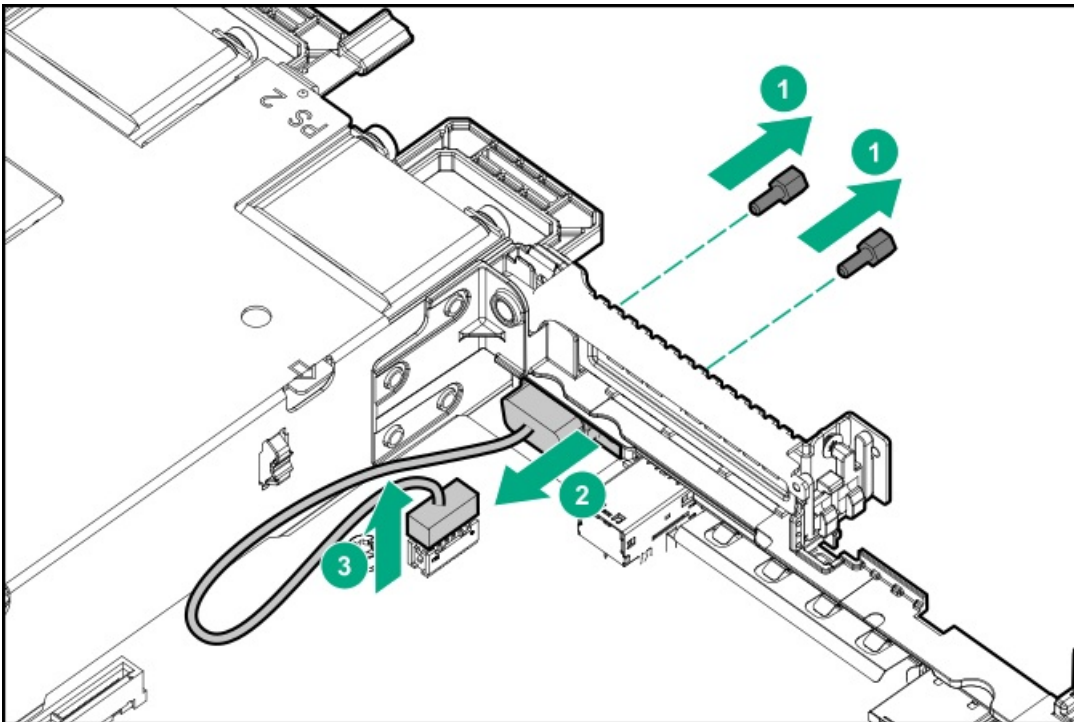


Prerequisites

Before you perform this procedure, make sure that you have a nut screwdriver available.

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the serial port cable:
 - a. Detach the serial port cable from the chassis.
 - b. Disconnect the cable from the system board.



To replace the component, reverse the removal procedure.

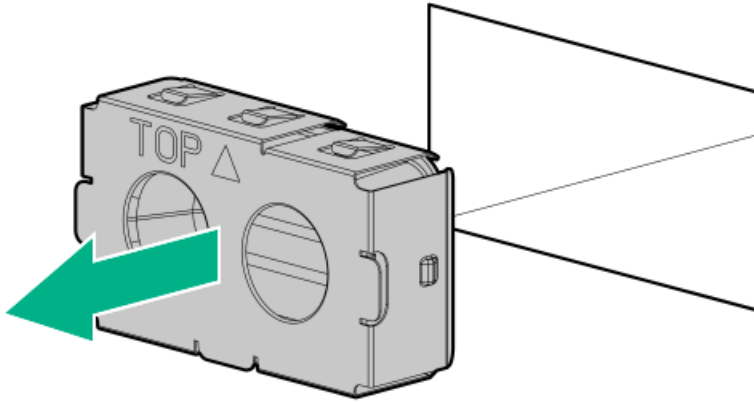
Removing and replacing a power supply blank

⚠ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated.

Procedure

Remove the power supply blank from the power supply bay.



To replace the component, reverse the removal procedure.

Removing and replacing a Flexible Slot power supply

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the power supply or power supply blank to cool before touching it.

⚠ CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

⚠ CAUTION: Mixing different types of power input modules in the same server might:

- Limit or disable some power supply features including support for power redundancy.
- Cause the system to become unstable and might shut down.

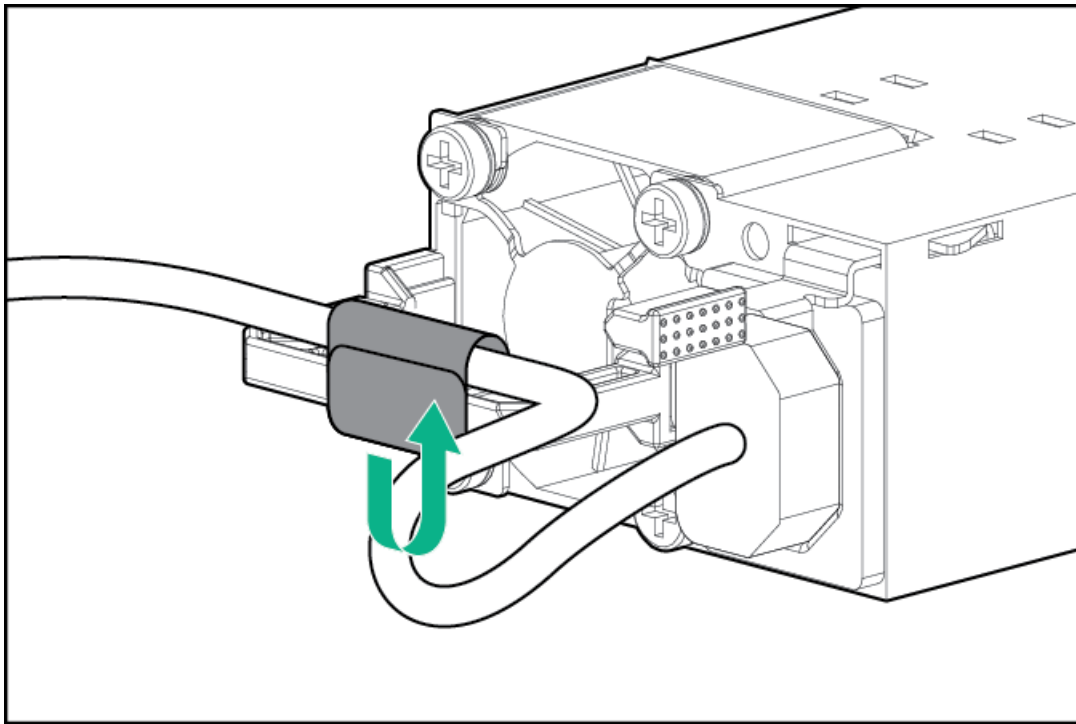
To ensure access to all available features, all power input modules in the same server should have the same output and efficiency ratings. Verify that all power input modules have the same part number and label color.

Prerequisites

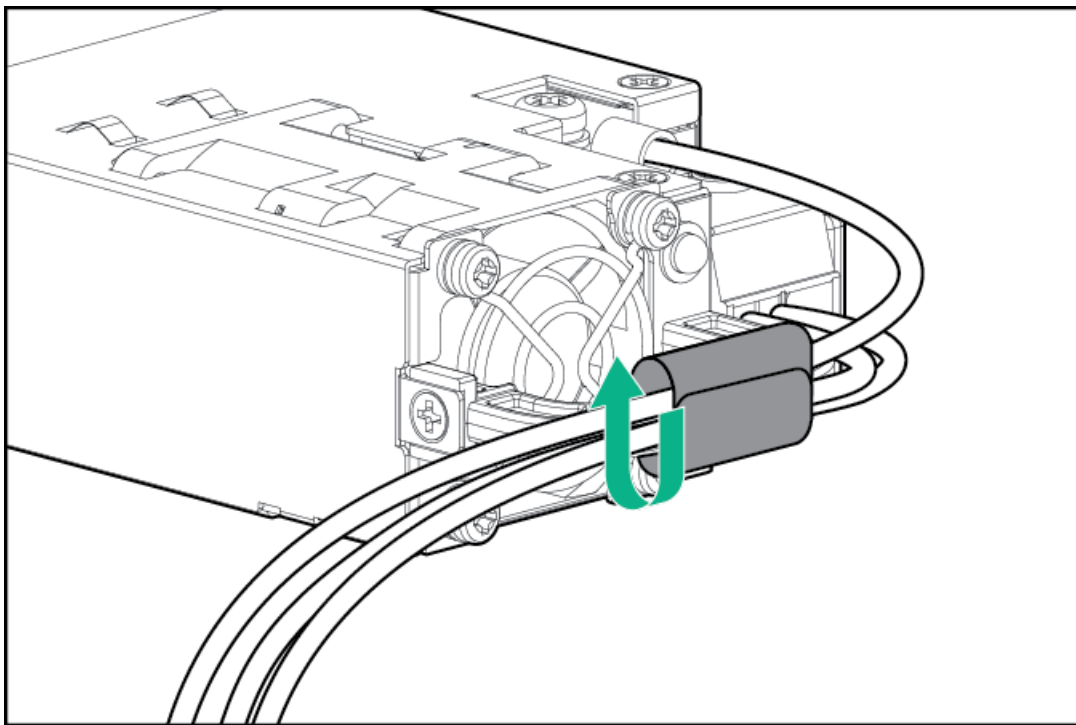
Before you perform this procedure, make sure that you have a Phillips No. 1 screwdriver available.

Procedure

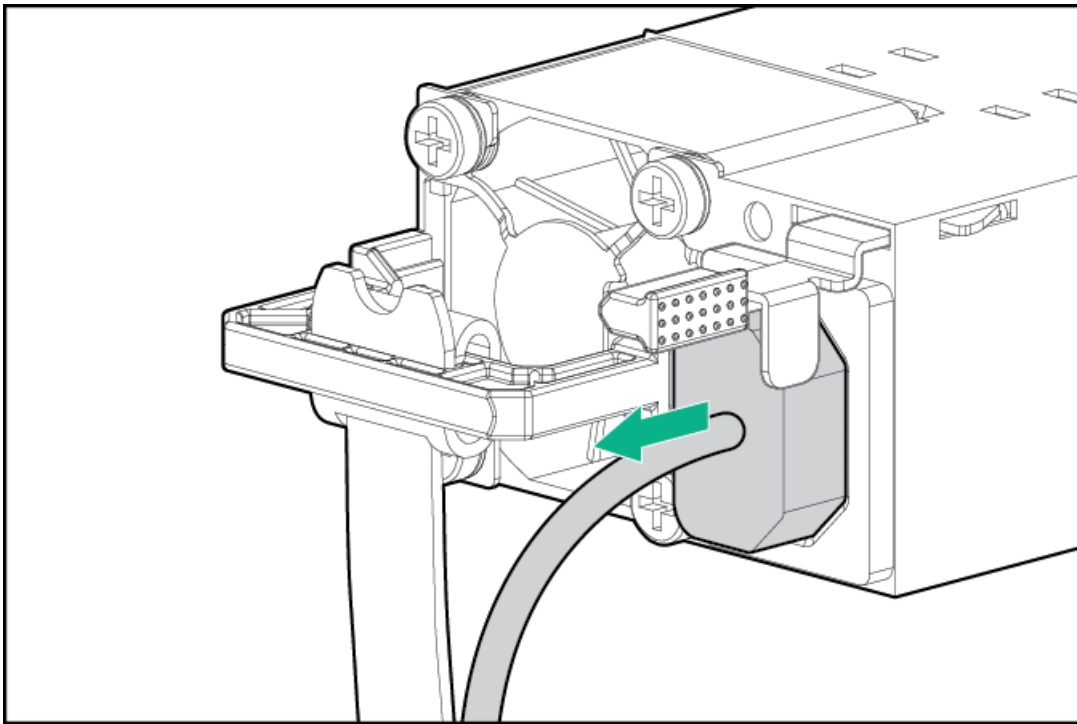
1. If the server is using a single power supply, remove all power from the server:
 - a. Back up all server data.
 - b. If installed, remove the bezel.
 - c. Power down the server.
 - d. Disconnect all peripheral cables from the server.
2. Release the power cords, wires, and cables from the strain relief strap.
 - AC power supply



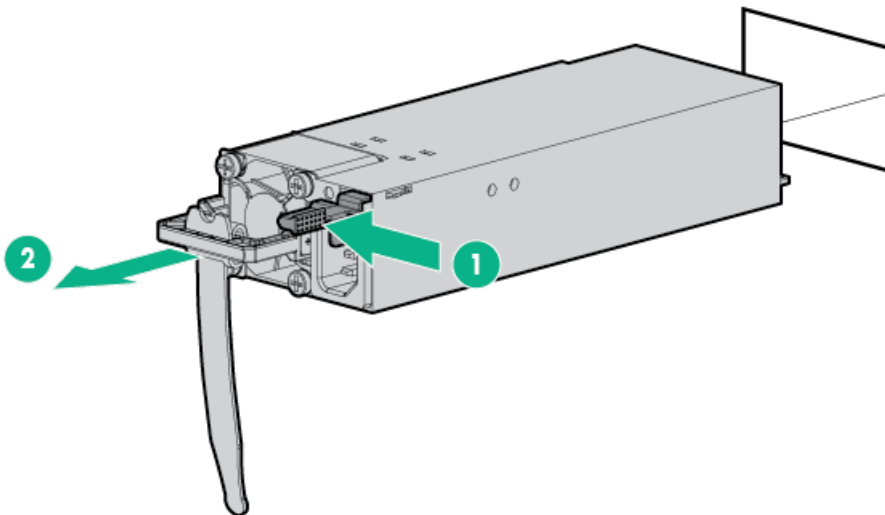
- DC power supply



3. For an AC power supply, do the following:
 - a. Disconnect the power cord from the power supply.



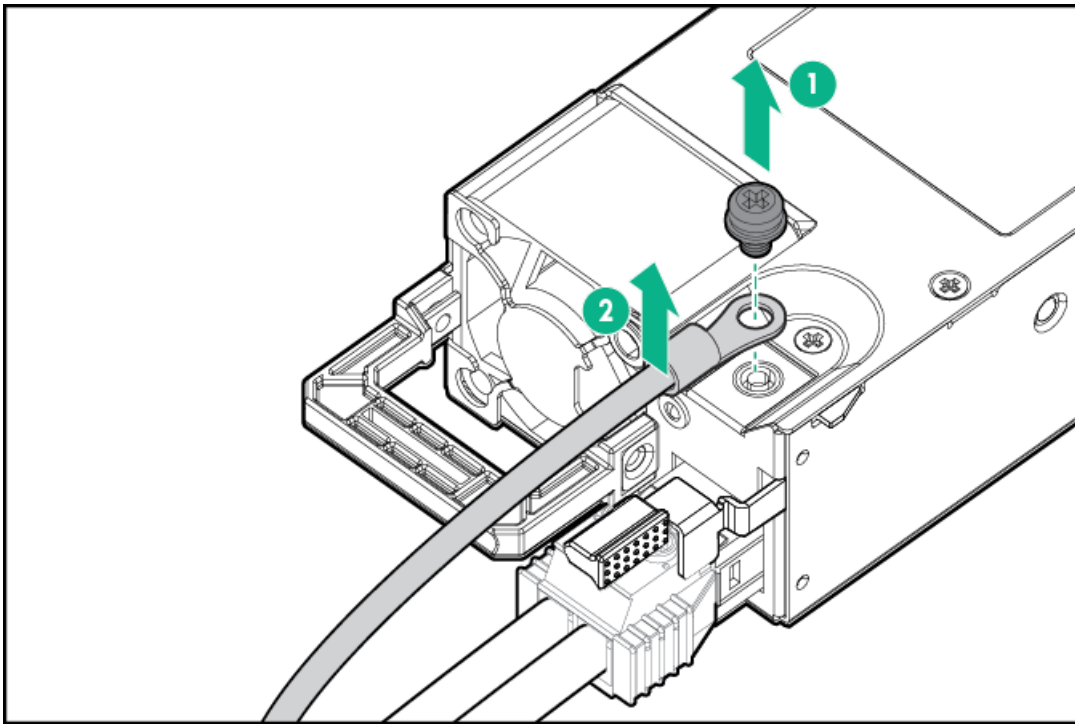
b. Remove the power supply.



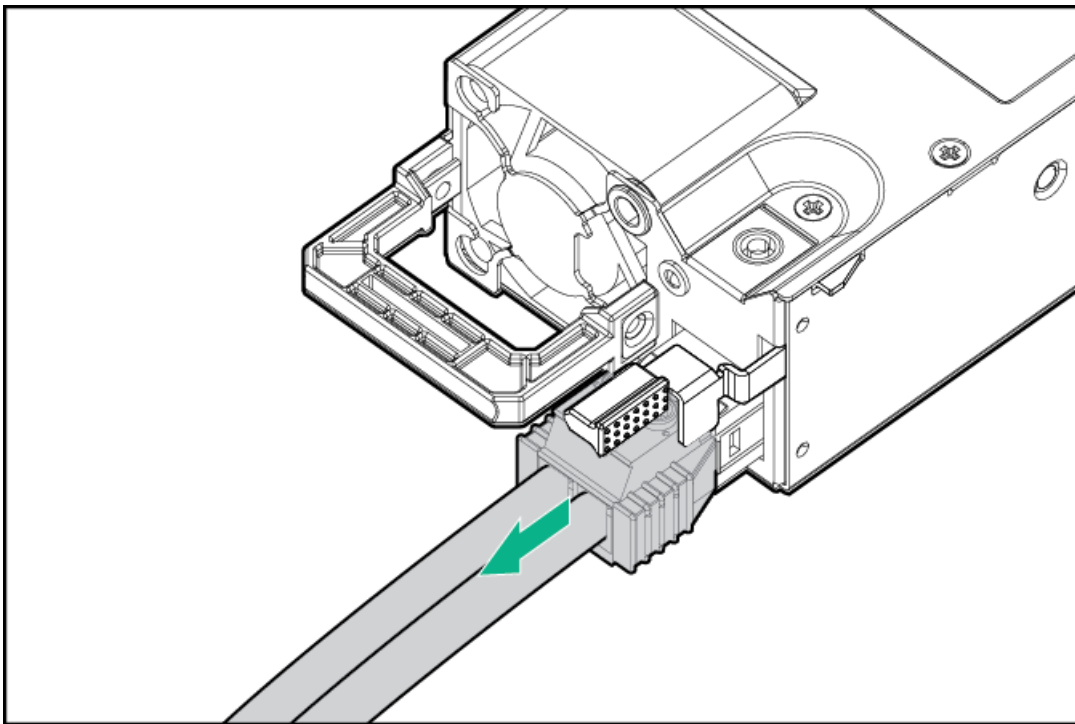
4. For a DC power supply, do the following:

- a. Slide the power supply out of the bay just enough to access the ground cable screw.
- b. Detach the ground (earthed) cable from the power supply.

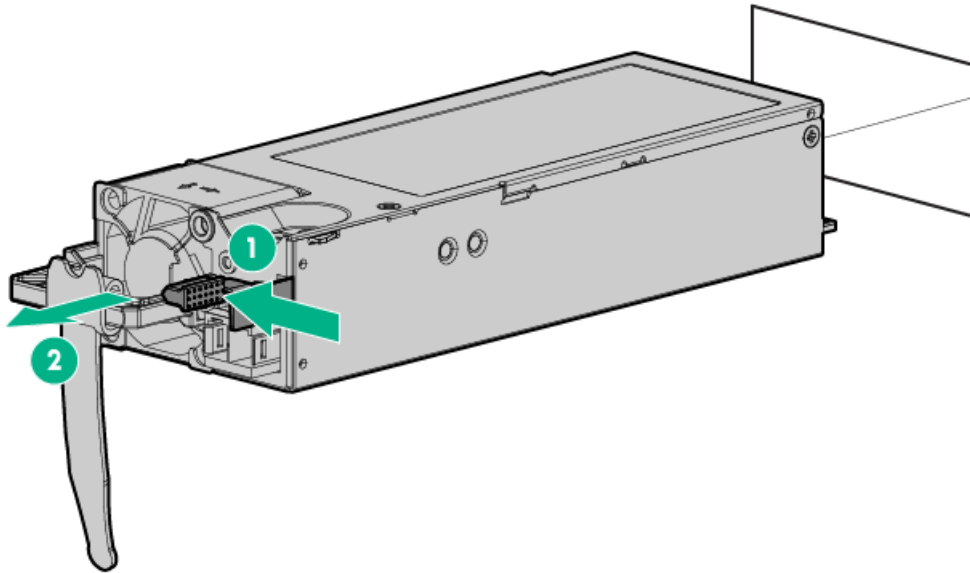




c. Remove the terminal block connector from the power supply.



d. Remove the power supply.



To replace the component, reverse the removal procedure.

Heatsink replacement

- [Removing a heatsink](#)
- [Replacing a heatsink](#)

Removing a heatsink

This procedure shows a standard heatsink as an example. The removal process is the same for both the standard and high performance heatsinks.

Prerequisites

Before you perform this procedure, make sure that you have a T-20 Torx screwdriver available.

Procedure

1. Observe the following alerts.

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

⚠ CAUTION: THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the socket or processor, do not touch the contacts.

2. If installed, [remove the bezel](#).
3. [Power down the server](#).
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.

5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Remove the access panel.
8. If installed, remove the air baffle.
9. Allow the existing heatsink to cool.
10. Remove the heatsink:

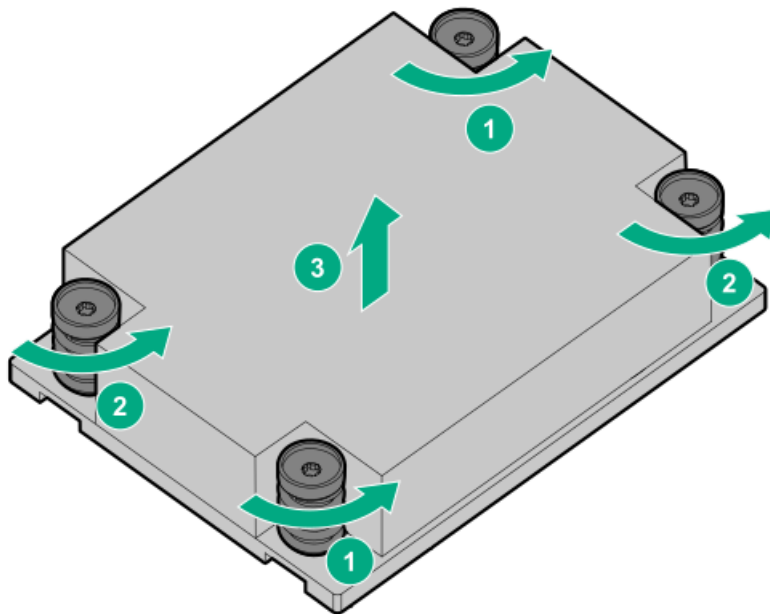
△ CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

△ CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Use a T-20 Torx screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.



- c. Place the heatsink on a flat work surface with its contact side facing upward.

Replacing a heatsink

This procedure shows a standard heatsink as an example. The replacement process is the same for both the standard and high performance heatsinks.

Hewlett Packard Enterprise recommends identifying the processor and socket components before performing this procedure.

Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-20 Torx screwdriver
- Alcohol wipe

Procedure

1. Use an alcohol wipe to remove the existing thermal grease from the processor.

Allow the alcohol to evaporate before continuing.

2. Remove the thermal interface protective cover from the new heatsink.

3. Install the heatsink:

△ CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

△ CAUTION:

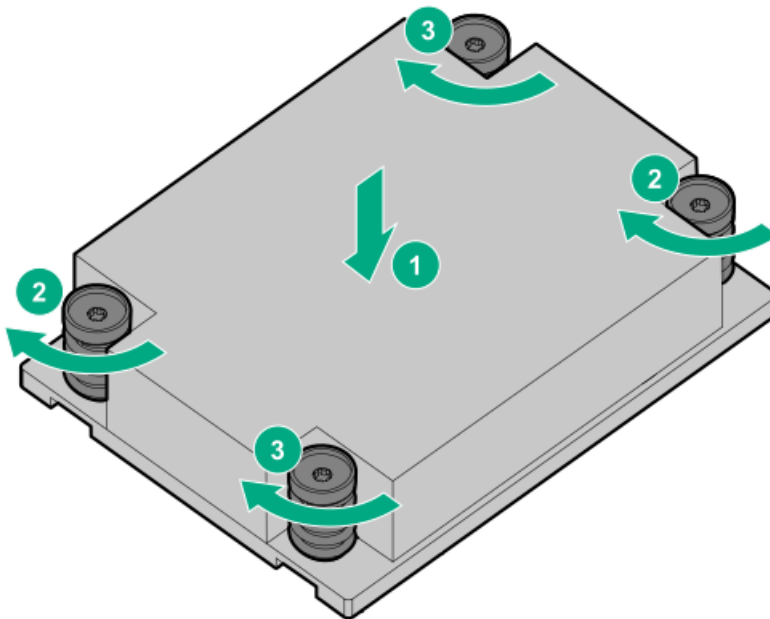
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

△ CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence specified on the heatsink label.

When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).



4. If removed, install the air baffle.
5. Install the access panel.
6. Install the server into rack.
7. Connect all peripheral cables to the server.

8. Connect each power cord to the server.
9. Connect each power cord to the power source.
10. Power up the server.
11. If removed, install the bezel.

Processor replacement

- [Removing a processor](#)
- [Replacing a processor](#)

Removing a processor

Hewlett Packard Enterprise recommends [identifying the processor and socket components](#) before performing this procedure.

Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-20 Torx screwdriver
- Alcohol wipe

Procedure

1. Observe the following alerts.

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

⚠ CAUTION: To avoid damage to the processor or system board, only authorized personnel should attempt to replace or install the processor in this server.

⚠ CAUTION: THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the socket or processor, do not touch the contacts.

2. If installed, remove the bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Remove the access panel.
8. If installed, remove the air baffle.
9. Allow the existing heatsink to cool.

10. Remove the heatsink:

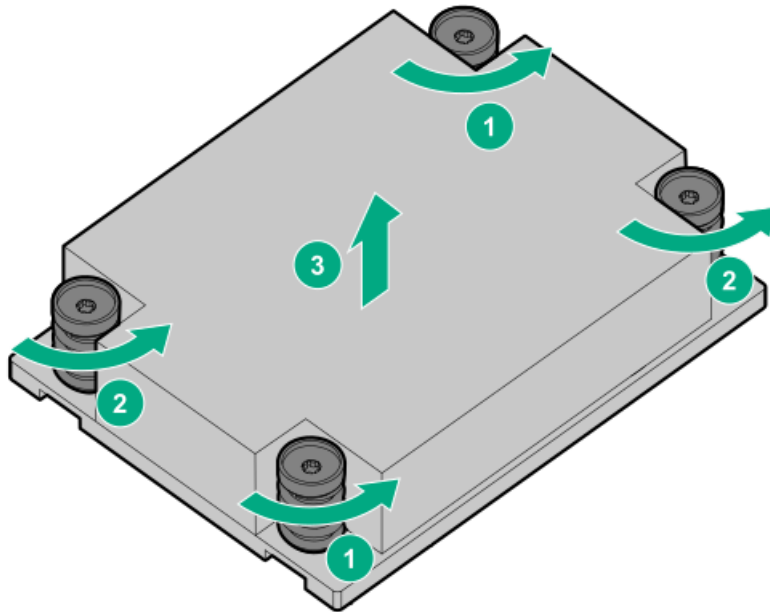
CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Use a T-20 Torx screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.

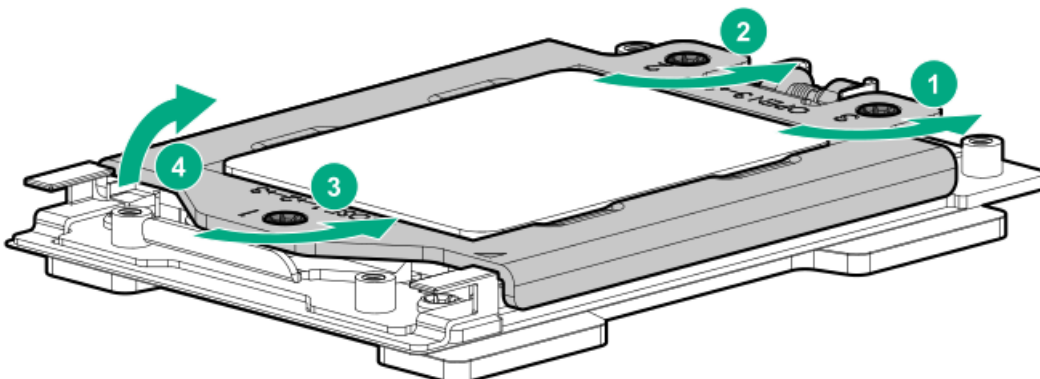


- c. Place the heatsink on a flat work surface with its contact side facing upward.

11. Use an alcohol wipe to remove the existing thermal grease from the heatsink.

Allow the alcohol to evaporate before continuing.

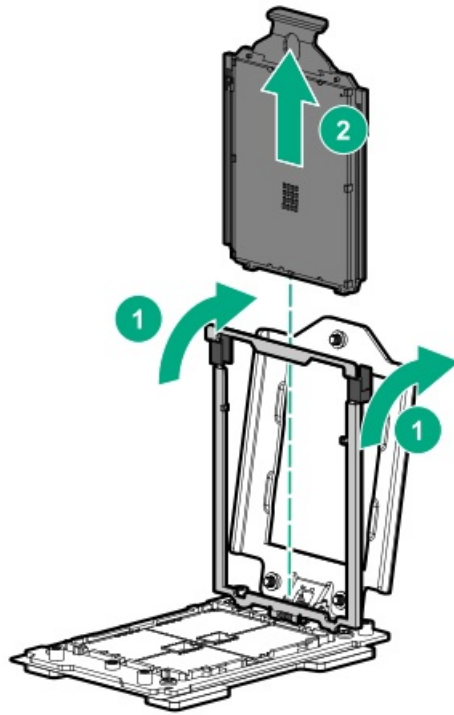
12. Use a T-20 Torx screwdriver to loosen the three captive screws in the sequence shown in the following image, and then pivot the force frame upward.



13. Remove the processor:

- a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.

- b. Slide the processor out of the rail frame.



Replacing a processor

Hewlett Packard Enterprise recommends identifying the processor and socket components before performing this procedure.

Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- The components included with the hardware option kit
- T-20 Torx screwdriver
- Thermal grease (spare part number: 777298-001)

Procedure

1. Observe the following alerts.

CAUTION: To avoid damage to the processor or system board, only authorized personnel should attempt to replace or install the processor in this server.

CAUTION: If installing a processor with a faster speed, update the system ROM before installing the processor. To download firmware and view installation instructions, see the [Hewlett Packard Enterprise Support Center website](#).

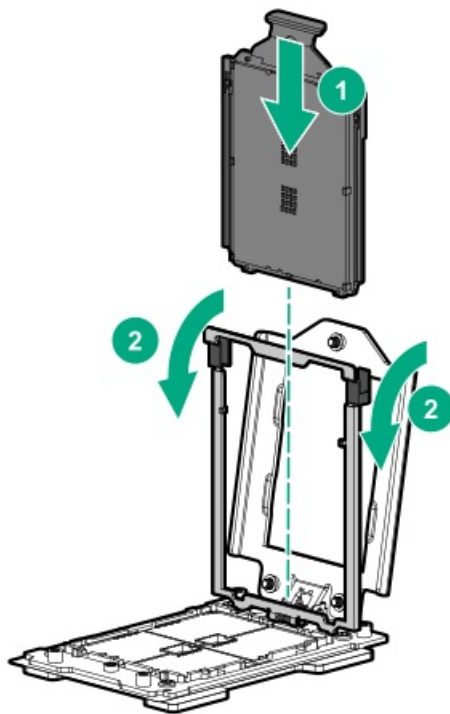
CAUTION: THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the socket or processor, do not touch the contacts.

2. Install the new processor:

- a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.

- b. Hold the lift tabs near the front end of the rail frame and pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.



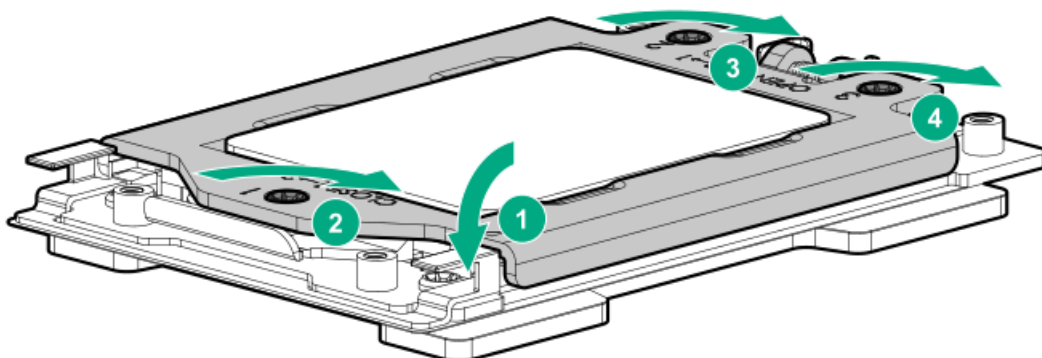
- 3. Close the force frame:

CAUTION:

Do not overtighten the screws as this might damage the system board or the processor socket.

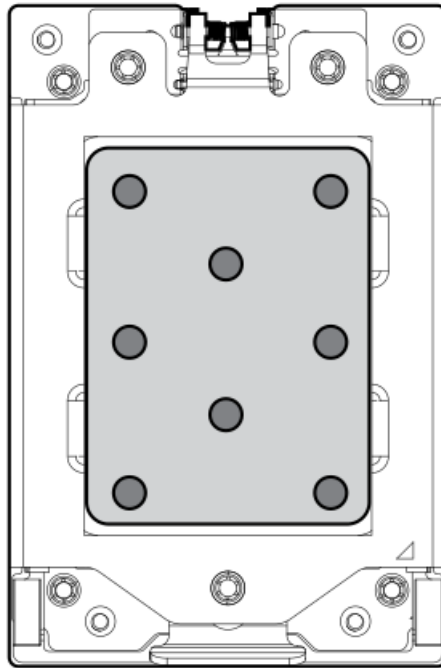
- a. Pivot the spring loaded force frame downward and hold it down (callout 1).
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence shown in the following image (callouts 2–4).

When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).



- 4. Apply new thermal grease to the processor in the pattern shown in the following image. Use the full contents of the thermal grease syringe.





5. Install the heatsink:

△ CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

△ CAUTION:

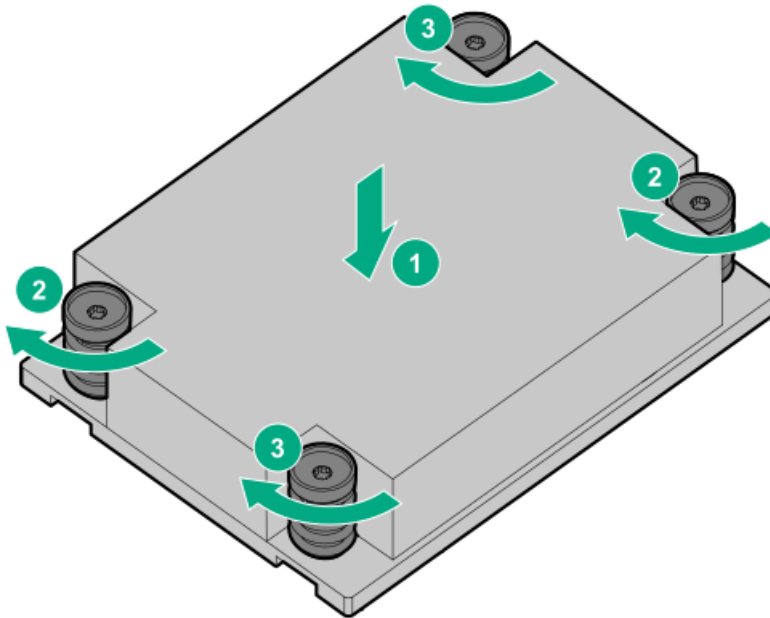
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

△ CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence specified on the heatsink label.

When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).



6. If removed, install the air baffle.
7. Install the access panel.
8. Install the server into the rack.
9. Connect all peripheral cables to the server.
10. Connect each power cord to the server.
11. Connect each power cord to the power source.
12. Power up the server.
13. If removed, install the bezel.

System battery replacement

If the server no longer automatically displays the correct date and time, then replace the battery that provides power to the real-time clock. Under normal use, battery life is 5–10 years.

System battery information

The server contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery that provides power to the real-time clock.



WARNING:

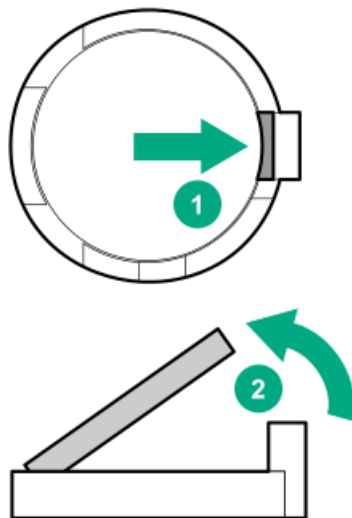
If this battery is not properly handled, a risk of the fire and burns exists. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
 - Do not expose the battery to temperatures higher than 60°C (140°F).
 - Do not expose the battery to extremely low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
 - Do not disassemble, crush, puncture, short external contacts, or dispose the battery in fire or water.
-

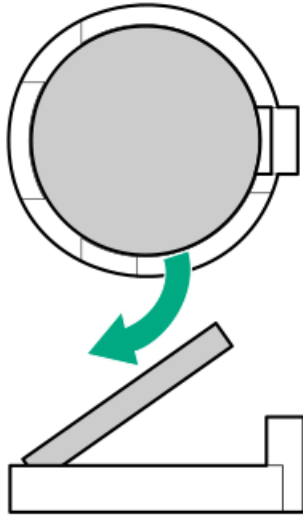
Removing and replacing the system battery

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Locate the battery on the system board.
8. Remove the battery.



9. Insert the battery with the "+" side facing up on the socket, and then press the battery down to secure it in place.



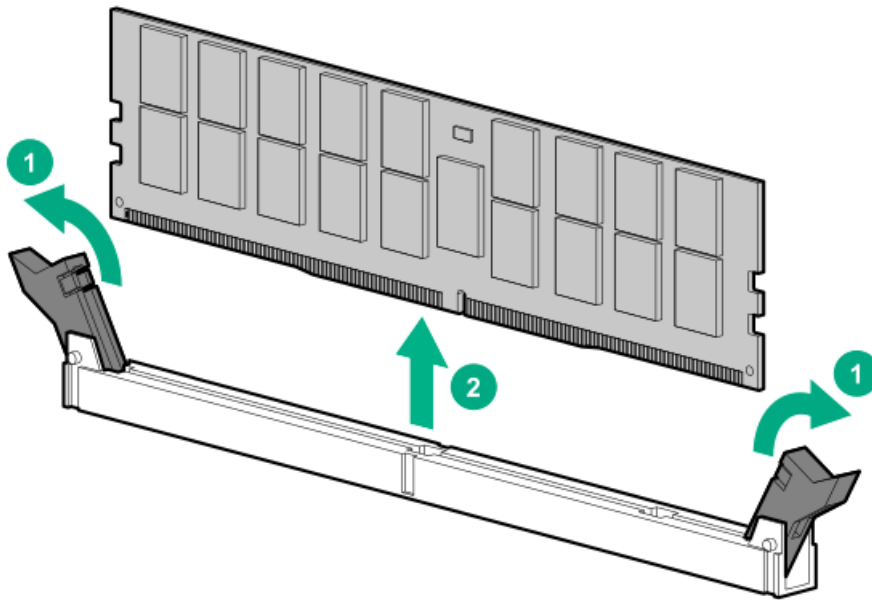
10. Install the access panel.
11. Install the server into the rack.
12. Connect all peripheral cables to the server.
13. Connect each power cord to the server.
14. Connect each power cord to the power source.
15. Power up the server.
16. If removed, install the bezel.
17. Properly dispose of the old battery.

For more information about battery replacement or proper disposal, contact an authorized reseller or support specialist.

Removing and replacing a DIMM

Procedure

1. If installed, remove the bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If installed, remove the air baffle.
8. Remove the DIMM.



To replace the component, reverse the removal procedure.

System board assembly replacement

- [Removing the system board](#)
- [Installing the system board](#)
- [Re-entering the server serial number and product ID](#)

Removing the system board

Prerequisites

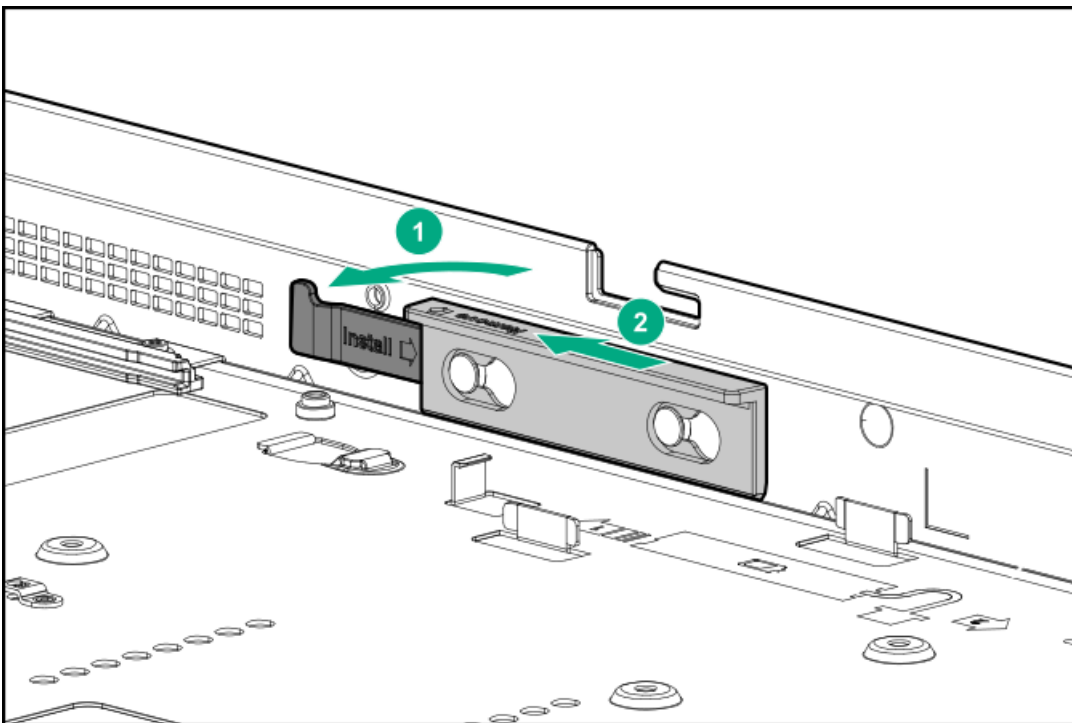
Before you perform this procedure, make sure that you have the following items available:

- T-15 screwdriver (for system board screws and the handle)
- T-20 screwdriver (for processor and heatsink screws)
- Hex nut screw driver
- Alcohol wipe
- System board handle (from spare system board kit)

Procedure

1. If installed, [remove the bezel](#).
2. [Power down the server](#).
3. Remove all power:
 - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove all power supplies.
7. Remove the access panel.
8. If installed, remove the air baffle.
9. Disconnect and remove all the cables connected to expansion boards and the system board.
10. Remove all riser cages.
11. Remove all fans.
12. Remove all fan blanks.
13. If installed, remove the following components:
 - Smart Array modular type-a controller or 1-port NVMe adapter
 - HPE Smart Storage battery
 - OCP NIC 3.0 adapter
 - Serial port cable
 - Chassis intrusion detection switch
14. Remove the GPU holder.



15. Remove the left OCP NIC 3.0 adapter rail.
16. Remove all DIMMs.
17. Allow the existing heatsink to cool.
18. Remove the heatsink:

△ CAUTION:

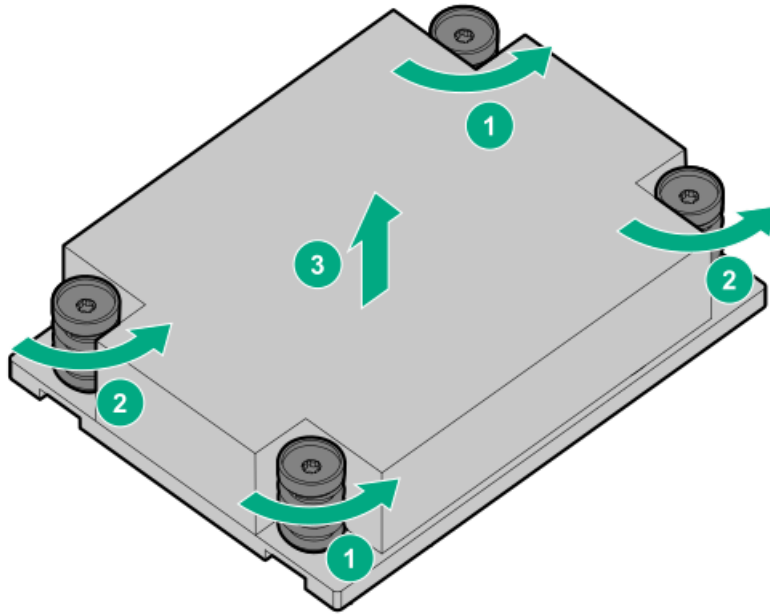
To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.



CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Use a T-20 Torx screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.

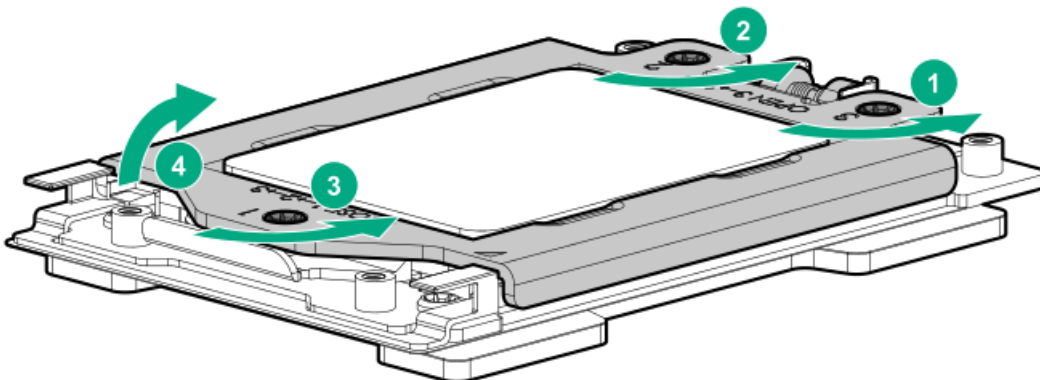


- c. Place the heatsink on a flat work surface with its contact side facing upward.

19. Use an alcohol wipe to remove the existing thermal grease from the heatsink.

Allow the alcohol to evaporate before continuing.

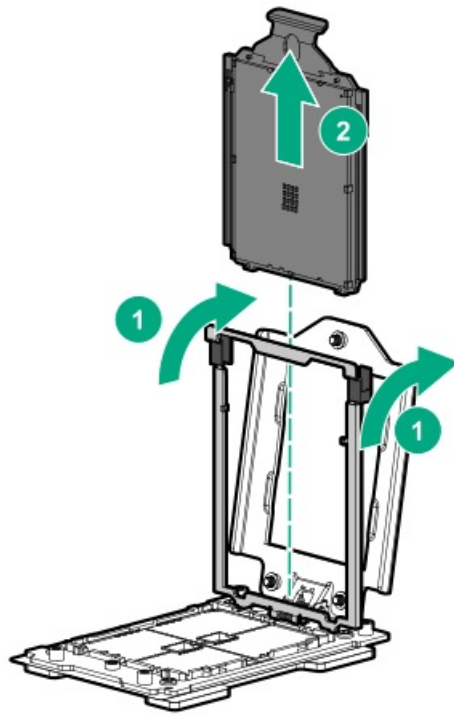
20. Use a T-20 Torx screwdriver to loosen the three captive screws in the sequence shown in the following image, and then pivot the force frame upward.



21. Remove the processor:

- a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.
- b. Slide the processor out of the rail frame.



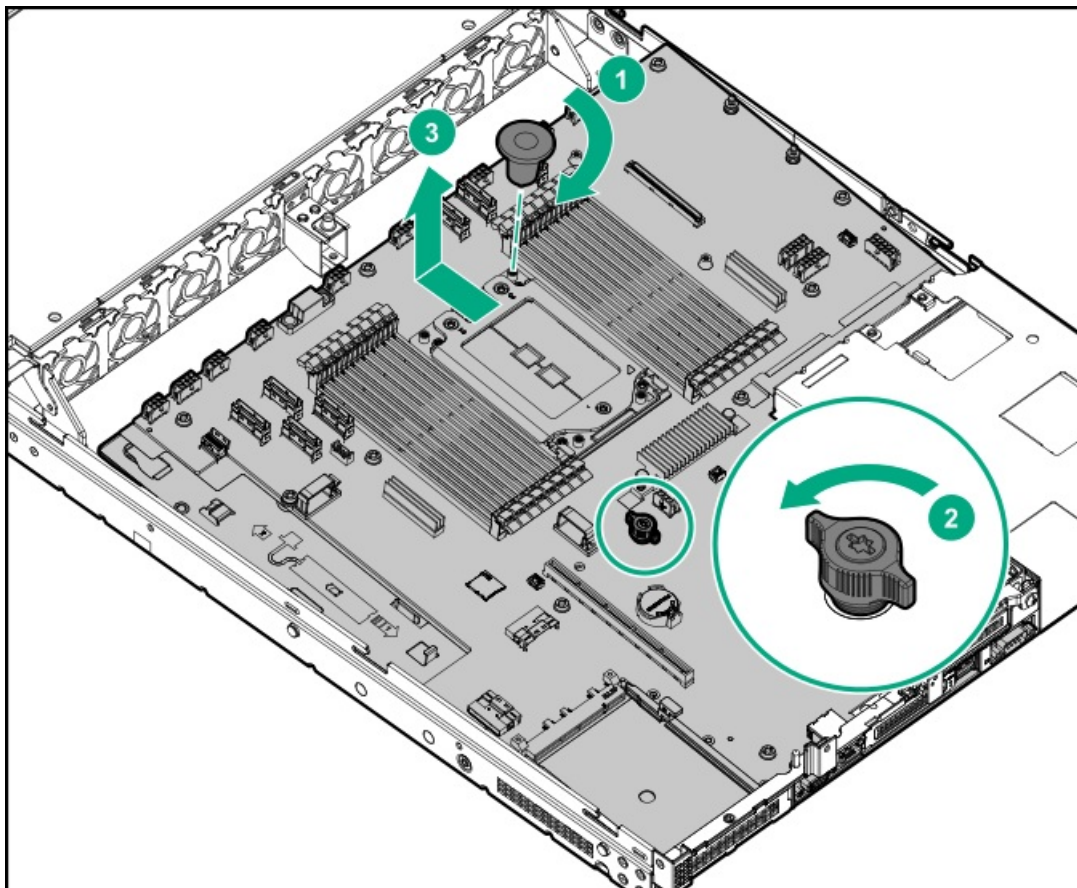


22. Use an alcohol wipe to remove the existing thermal grease from the processor.

Allow the alcohol to evaporate before continuing.

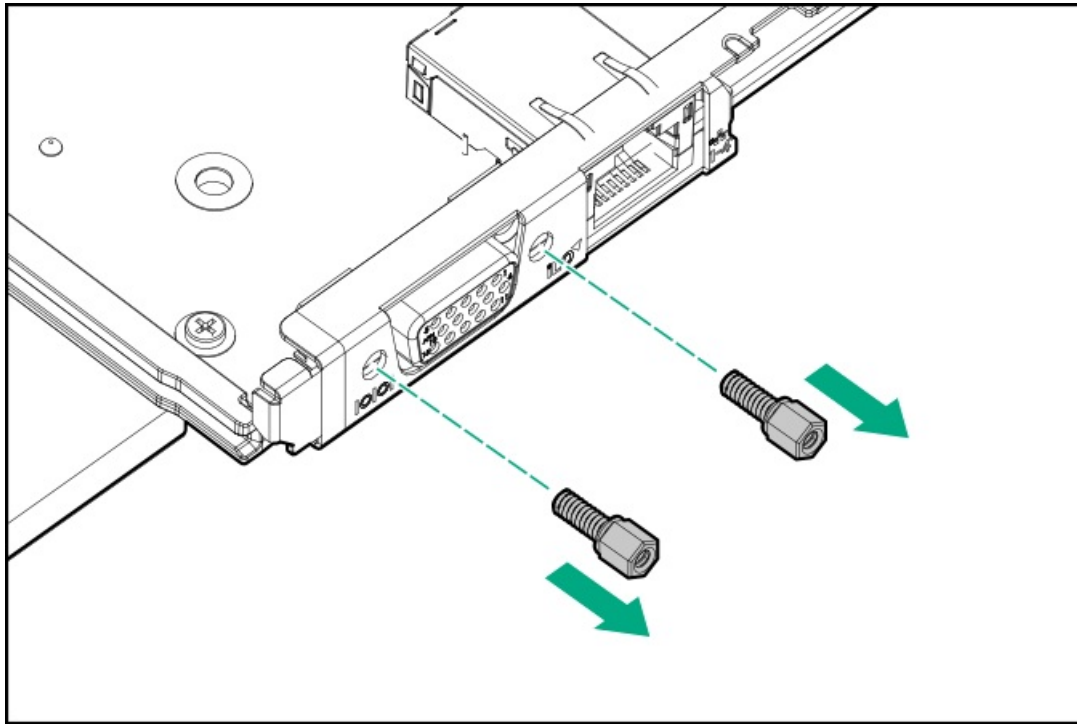
23. Remove the system board with the base pan:

- a. Install the system board handle on the corner of the processor socket.
- b. Loosen the thumbscrew.
- c. Hold the handle and the thumbscrew and lift the system board out of the chassis.



24. Separate the system board from the base pan:

- a. Remove the VGA screws.



- b. Remove all screws from the system board.

25. Remove the right OCP NIC 3.0 adapter rail.
26. Remove the handle from the system board.

Replacing the system board

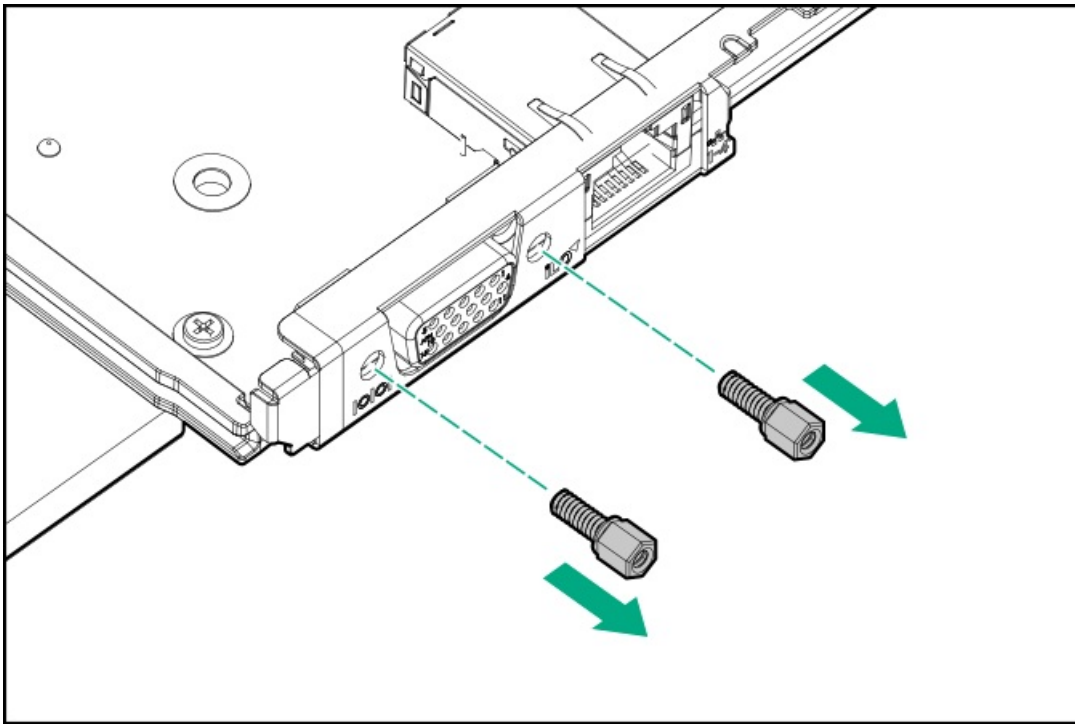
Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 screwdriver (for system board screws and the handle)
- T-20 screwdriver (for processor and heatsink screws)
- Thermal grease (spare part number: 777298-001)
- Hex nut screw driver

Procedure

1. Install the right OCP rail:
 - a. Remove the VGA screws.

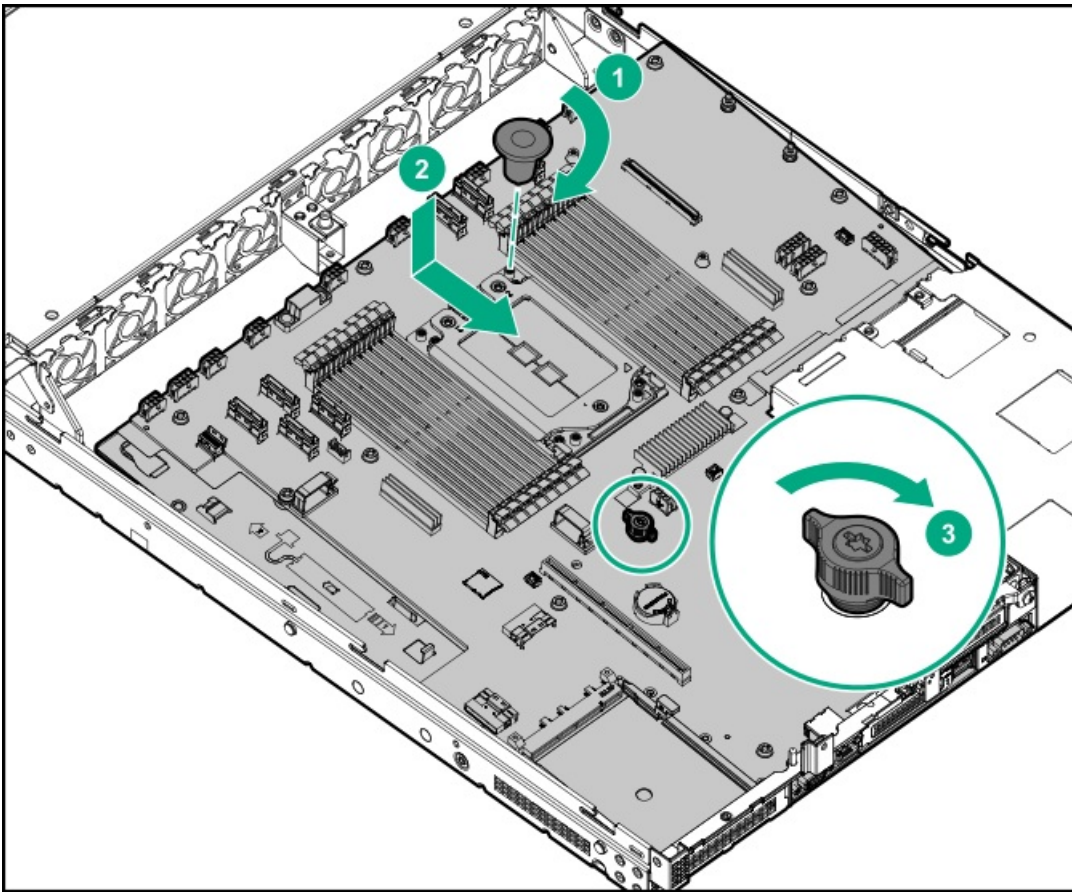


- b. Remove all screws from the system board.
 - c. Install the right OCP NIC 3.0 adapter rail .
2. Install the new system board with the base pan:
- a. Install the system board handle on the corner of the processor socket.
 - b. Hold the handle and the thumbscrew to place the new system board in the chassis.

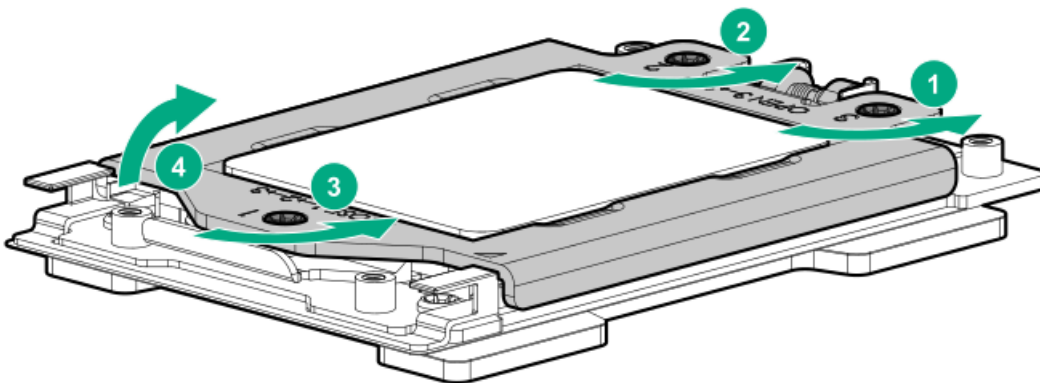
NOTE:

Ensure that the alignment mark is visible on the corner after installing the system board.

- c. Tighten the thumbscrew.



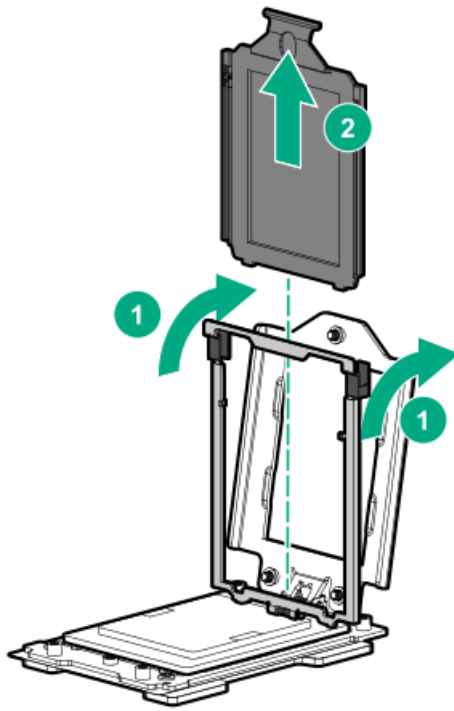
3. Remove the handle from the system board.
4. Install the system board screws.
5. Install the VGA screws.
6. Use a T-20 Torx screwdriver to loosen the three captive screws in the sequence shown in the following image, and then pivot the force frame upward.



7. Remove the external cap:
 - a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.
 - b. Slide the external cap out of the rail frame.

Retain the external cap for future use.





8. Install the processor:

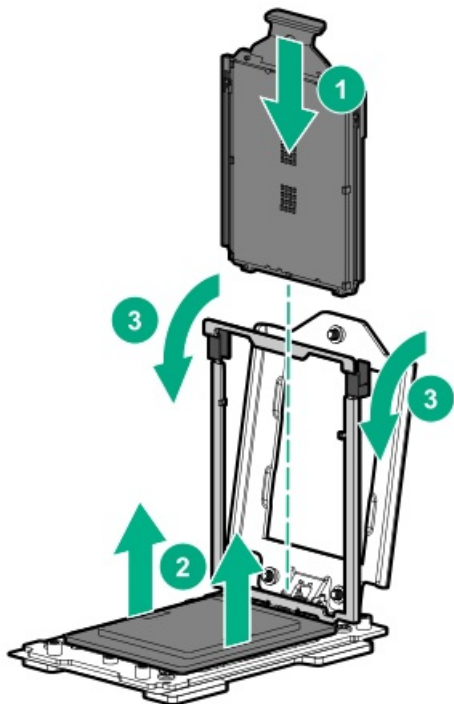
- a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.
- b. Remove the pin field cover cap.

△ CAUTION:

To prevent the risk of damaging the pins in the processor socket, do not reinstall the pin field cover cap after removing it.

- c. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.



9. Close the force frame:

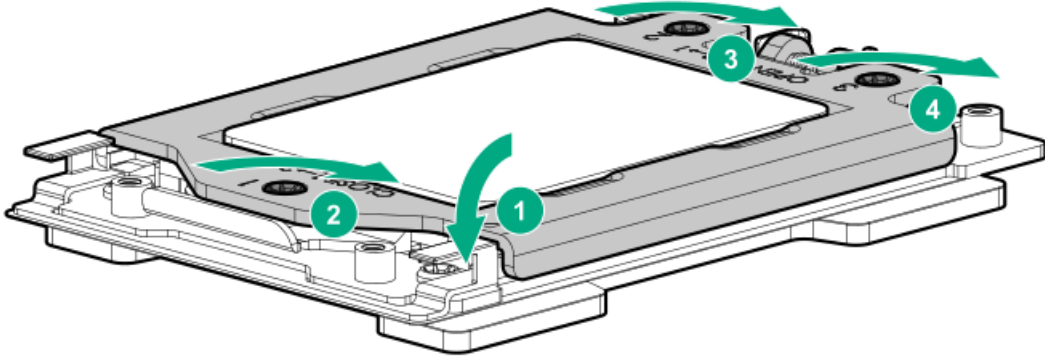
△ CAUTION:



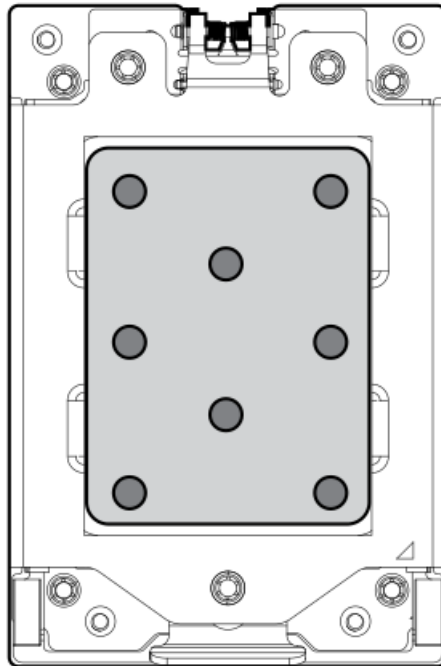
Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Pivot the spring loaded force frame downward and hold it down (callout 1).
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence shown in the following image (callouts 2–4).

When using a torque wrench to tighten the screws, apply a torque of 1.58 N·m (14 lbf-in).



10. Apply new thermal grease to the processor in the pattern shown in the following image. Use the full contents of the thermal grease syringe.



11. Install the heatsink:

△ CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

△ CAUTION:

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become

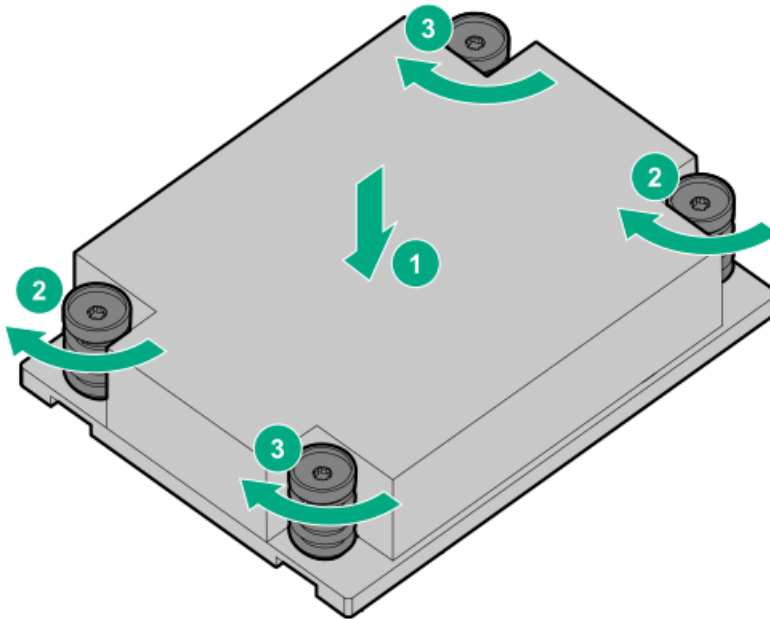
uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

CAUTION:

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence specified on the heatsink label.

When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).



12. Install all the components removed from the system board.
13. If removed, install the air baffle.
14. Install the access panel.
15. Install the server into the rack.
16. Connect all peripheral cables to the server,
17. Connect each power cord to the server.
18. Connect each power cord to the power source.
19. Power up the server.
20. If removed, install the bezel.
21. Make sure all firmware, including option cards and embedded devices, is updated to the same versions to ensure that the latest drivers are being used.
22. Re-enter any Secure Boot keys that were previously added in the Secure Boot configuration.
23. Re-enter the server serial number and product ID, and then configure the date and time settings .

Re-entering the server serial number and product ID

After replacing the system board, re-enter the system serial number and product ID, and configure the date and time settings.

Procedure

1. Access the UEFI System Utilities. During POST, press **F9**.
2. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced Service Options.
3. Select Serial Number, and then press **Enter**.

The following warning appears:

```
The serial number is modified by qualified service personnel and must match the serial number located on the chassis.
```

4. Click OK.
5. Type the serial number, and then press **Enter**.
6. Select Product ID, and then press **Enter**.

The following warning appears:

```
Product ID is modified only by qualified service personnel. This value must match the product ID located on the chassis.
```

7. Type the product ID, and then press **Enter**.
8. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
9. Configure the date and time settings:
 - Date (mm-dd-yyyy)—Enter the date in a month-day-year (mm-dd-yyyy) format.
 - Time (hh:mm:ss)—Enter the time in a 24-hour format (hh:mm:ss) format.
 - Hour Format—Select either a 12- or 24-hours format. (This menu is supported in Gen10 Plus and later servers.)
 - Time Format
 - Coordinated Universal Time (UTC)—Calculates the time stored in the hardware real-time clock (RTC) from the associated Time Zone setting.
 - Local Time—Removes the use of the Time Zone setting. This option is useful for addressing interaction issues in Windows operating systems set in legacy BIOS boot mode.
 - Time Zone—Select the time zone for the system.
 - Daylight Savings Time—Select whether to enable DST in the system time setting.
10. To confirm and save the settings, press **F12**.

The server automatically reboots.

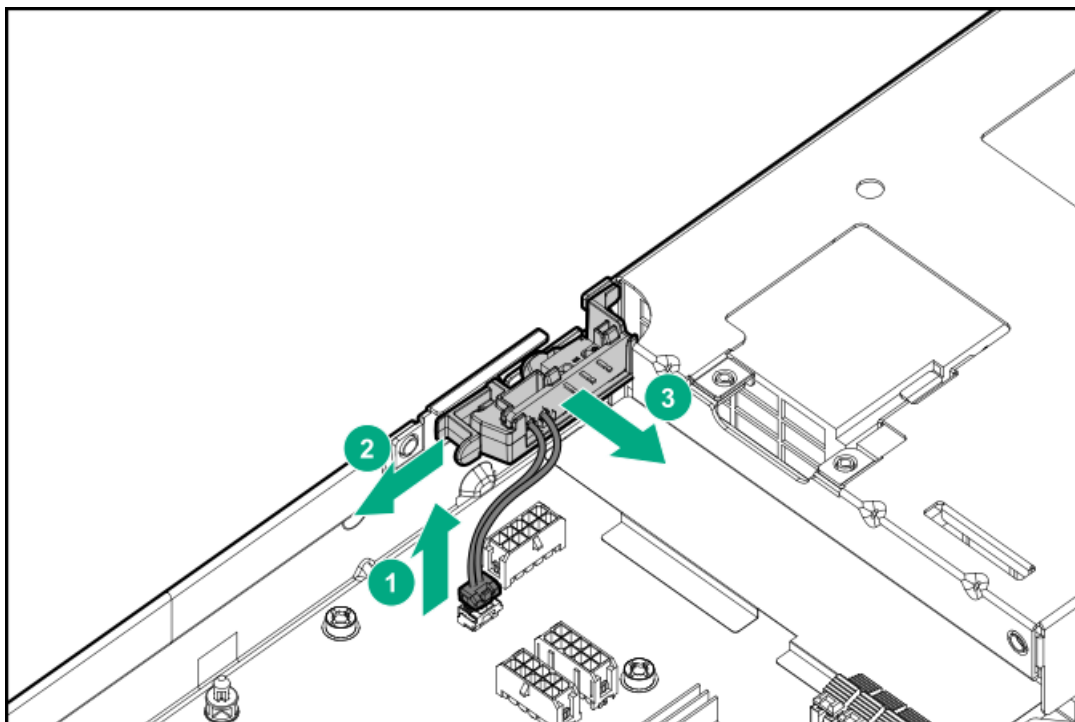
The installation is complete.

Removing and replacing the chassis intrusion detection switch

Procedure

1. If installed, remove the front bezel.
2. Power down the server.

3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Disconnect the chassis intrusion detection switch cable and remove the switch.



To replace the component, reverse the removal procedure.

HPE Trusted Platform Module 2.0 Gen10 Plus option

The HPE Trusted Platform Module 2.0 Gen10 Plus option is not a customer-removable part.

CAUTION: If the TPM is removed from the original server and powered up on a different server, data stored in the TPM including keys will be erased.

If you suspect a TPM board failure, leave the TPM installed and remove the system board ([remove the system board](#)). Contact a Hewlett Packard Enterprise authorized service provider for a replacement system board and TPM module.

Troubleshooting

- [NMI functionality](#)
- [Troubleshooting resources](#)

NMI functionality

An NMI crash dump enables administrators to create crash dump files when a system is hung and not responding to traditional debugging methods.

An analysis of the crash dump log is an essential part of diagnosing reliability problems, such as hanging operating systems, device drivers, and applications. Many crashes freeze a system, and the only available action for administrators is to cycle the system power. Resetting the system erases any information that could support problem analysis, but the NMI feature preserves that information by performing a memory dump before a hard reset.

To force the OS to initiate the NMI handler and generate a crash dump log, the administrator can use the iLO Generate NMI feature.

Troubleshooting resources

Troubleshooting resources are available for HPE Gen10 and Gen10 Plus server products in the following documents:

- [Troubleshooting Guide for HPE ProLiant Gen10 and Gen10 Plus servers](#) provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance.
- [Integrated Management Log Messages and Troubleshooting Guide for HPE ProLiant Gen10 and Gen10 Plus servers and HPE Synergy](#) provides IML messages and associated troubleshooting information to resolve critical and cautionary IML events.

To access troubleshooting resources for your product, see the [Hewlett Packard Enterprise website](#).

Diagnostic tools

UEFI System Utilities

The UEFI System Utilities is embedded in the system ROM. Its features enable you to perform a wide range of configuration activities, including:

- Configuring system devices and installed options.
- Enabling and disabling system features.
- Displaying system information.
- Selecting the primary boot controller or partition.
- Configuring memory options.
- Launching other preboot environments.

HPE servers with UEFI can provide:

- Support for boot partitions larger than 2.2 TB. Such configurations could previously only be used for boot drives when using RAID solutions.
- Secure Boot that enables the system firmware, option card firmware, operating systems, and software collaborate to enhance platform security.
- UEFI Graphical User Interface (GUI)
- An Embedded UEFI Shell that provides a preboot environment for running scripts and tools.
- Boot support for option cards that only support a UEFI option ROM.

Selecting the Boot Mode

This server provides two Boot Mode configurations: UEFI Mode and Legacy BIOS Mode. Certain boot options require that you select a specific boot mode. By default, the boot mode is set to UEFI Mode. The system must boot in UEFI Mode to use certain options, including:

- Secure Boot, UEFI Optimized Boot, Generic USB Boot, IPv6 PXE Boot, iSCSI Boot, NVMe Boot and Boot from URL
- Fibre Channel/FCoE Scan Policy

NOTE:

The boot mode you use must match the operating system installation. If not, changing the boot mode can impact the ability of the server to boot to the installed operating system.

Prerequisite

When booting to UEFI Mode, leave UEFI Optimized Boot enabled.

Procedure

1. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Boot Options > Boot Mode.
2. Select a setting.
 - UEFI Mode (default)—Configures the system to boot to a UEFI compatible operating system.
 - Legacy BIOS Mode—Configures the system to boot to a traditional operating system in Legacy BIOS compatibility mode.
3. Save your setting.
4. Reboot the server.

Secure Boot

Secure Boot is a server security feature that is implemented in the BIOS and does not require special hardware. Secure Boot ensures that each component launched during the boot process is digitally signed and that the signature is validated against a set of trusted certificates embedded in the UEFI BIOS. Secure Boot validates the software identity of the following components in the boot process:

- UEFI drivers loaded from PCIe cards
- UEFI drivers loaded from mass storage devices
- Preboot UEFI Shell applications
- OS UEFI boot loaders

When Secure Boot is enabled:

- Firmware components and operating systems with boot loaders must have an appropriate digital signature to execute during the boot process.
- Operating systems must support Secure Boot and have an EFI boot loader signed with one of the authorized keys to boot. For more information about supported operating systems, see <https://www.hpe.com/servers/ossupport>.

You can customize the certificates embedded in the UEFI BIOS by adding or removing your own certificates, either from a management console directly attached to the server, or by remotely connecting to the server using the iLO Remote Console.

You can configure Secure Boot:

- Using the System Utilities options described in the following sections.
- Using the iLO RESTful API to clear and restore certificates. For more information, see the Hewlett Packard Enterprise website (<https://www.hpe.com/info/redfish>).
- Using the `secboot` command in the Embedded UEFI Shell to display Secure Boot databases, keys, and security reports.

Launching the Embedded UEFI Shell

Use the Embedded UEFI Shell option to launch the Embedded UEFI Shell. The Embedded UEFI Shell is a preboot command-line environment for scripting and running UEFI applications, including UEFI boot loaders. The Shell also provides CLI-based commands you can use to obtain system information, and to configure and update the system BIOS.

Prerequisites

- Embedded UEFI Shell is set to Enabled.

Procedure

1. From the System Utilities screen, select Embedded Applications > Embedded UEFI Shell.

The Embedded UEFI Shell screen appears.

2. Press any key to acknowledge that you are physically present.

This step ensures that certain features, such as disabling Secure Boot or managing the Secure Boot certificates using third-party UEFI tools, are not restricted.

3. If an administrator password is set, enter it at the prompt and press Enter.

The `Shell>` prompt appears.

4. Enter the commands required to complete your task.

5. Enter the `exit` command to exit the Shell.

iLO Service Port

When you have physical access to a server, you can use the Service Port to do the following:

- Download the Active Health System Log to a supported USB flash drive.

When you use this feature, the connected USB flash drive is not accessible by the host operating system.

- Connect a client (such as a laptop) with a supported USB to Ethernet adapter to access the following:
 - iLO web interface
 - Remote console
 - iLO RESTful API
 - CLI

When you use the iLO Service Port:

- Actions are logged in the iLO event log.
- The server UID flashes to indicate the Service Port status.

You can also retrieve the Service Port status by using a REST client and the iLO RESTful API.

- You cannot use the Service Port to boot any device within the server, or the server itself.
- You cannot access the server by connecting to the Service Port.
- You cannot access the connected device from the server.

Intelligent Provisioning

Intelligent Provisioning is a single-server deployment tool embedded in ProLiant servers and HPE Synergy compute modules. Intelligent Provisioning simplifies server setup, providing a reliable and consistent way to deploy servers.

Intelligent Provisioning prepares the system for installing original, licensed vendor media and Hewlett Packard Enterprise-branded versions of OS software. Intelligent Provisioning also prepares the system to integrate optimized server support software from the

Service Pack for ProLiant (SPP). SPP is a comprehensive systems software and firmware solution for ProLiant servers, server blades, their enclosures, and HPE Synergy compute modules. These components are preloaded with a basic set of firmware and OS components that are installed along with Intelligent Provisioning.

i IMPORTANT:

HPE ProLiant XL servers do not support operating system installation with Intelligent Provisioning, but they do support the maintenance features. For more information, see "Performing Maintenance" in the Intelligent Provisioning user guide and online help.

After the server is running, you can update the firmware to install additional components. You can also update any components that have been outdated since the server was manufactured.

To access Intelligent Provisioning:

- Press F10 from the POST screen and enter Intelligent Provisioning .
- From the iLO web interface using Lifecycle Management. Lifecycle Management allows you to access Intelligent Provisioning without rebooting your server.

HPE Insight Remote Support

Hewlett Packard Enterprise strongly recommends that you register your device for remote support to enable enhanced delivery of your Hewlett Packard Enterprise warranty, HPE support services, or Hewlett Packard Enterprise contractual support agreement. Insight Remote Support supplements your monitoring continuously to ensure maximum system availability by providing intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution, based on your product's service level. Notifications can be sent to your authorized Hewlett Packard Enterprise Channel Partner for onsite service, if configured and available in your country.

For more information, see Insight Remote Support and Insight Online Setup Guide for ProLiant Servers and BladeSystem c-Class Enclosures on the [Hewlett Packard Enterprise website](#). Insight Remote Support is available as part of Hewlett Packard Enterprise Warranty, HPE support services, or Hewlett Packard Enterprise contractual support agreement.

HPE InfoSight for servers

The HPE InfoSight portal is a secure web interface hosted by HPE that allows you to monitor supported devices through a graphical interface.

HPE InfoSight for servers:

- Combines the machine learning and predictive analytics of HPE InfoSight with the health and performance monitoring of Active Health System (AHS) and HPE iLO to optimize performance and predict and prevent problems
- Provides automatic collection and analysis of the sensor and telemetry data from AHS to derive insights from the behaviors of the install base to provide recommendations to resolve problems and improve performance

For more information on getting started and using HPE InfoSight for servers, go to: <https://www.hpe.com/info/infosight-servers-docs>.

USB support

Hewlett Packard Enterprise Gen10 and Gen10 Plus servers support all USB operating speeds depending on the device that is connected to the server.

External USB functionality

Hewlett Packard Enterprise provides external USB support to enable local connection of USB devices for server administration, configuration, and diagnostic procedures.

For additional security, external USB functionality can be disabled through USB options in UEFI System Utilities.

Smart Storage Administrator

SSA is the main tool for configuring arrays on these controllers. It exists in three interface formats: the SSA GUI, the SSA CLI, and SSA Scripting. All formats provide support for configuration tasks. Some of the advanced tasks are available in only one format.

The diagnostic features in SSA are also available in the standalone software Smart Storage Administrator Diagnostics Utility CLI.

SSA is accessible both offline and online:

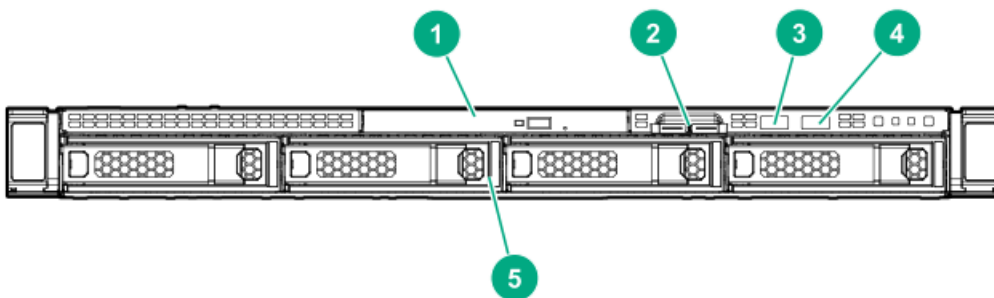
- **Accessing SSA in the offline environment:** Using one of multiple methods, you can run SSA before launching the host operating system. In offline mode, users can configure or maintain detected and supported HPE ProLiant devices, such as optional controllers and integrated controllers. Some SSA features are only available in the offline environment, such as setting the boot controller or performing split-mirror operations.
- **Accessing SSA in the online environment:** This method requires an administrator to download the SSA executables and install them. You can run SSA online after launching the host operating system.

Component identification

This chapter describes the external and internal server features and components.

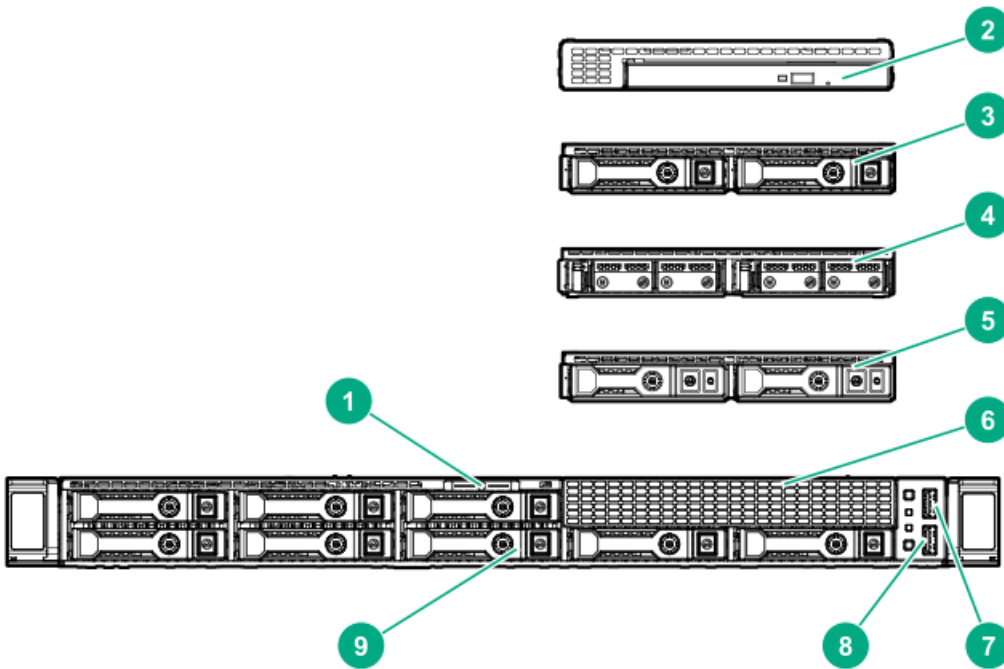
Front panel components

LFF drive model



Item	Description
1	Optical drive (optional, for short chassis only)
2	Serial number/iLO information pull tab
3	iLO service port
4	USB 3.0 port
5	LFF drive bays (up to 12 LFF drives)

SFF SAS/SATA/U.3 NVMe drive model

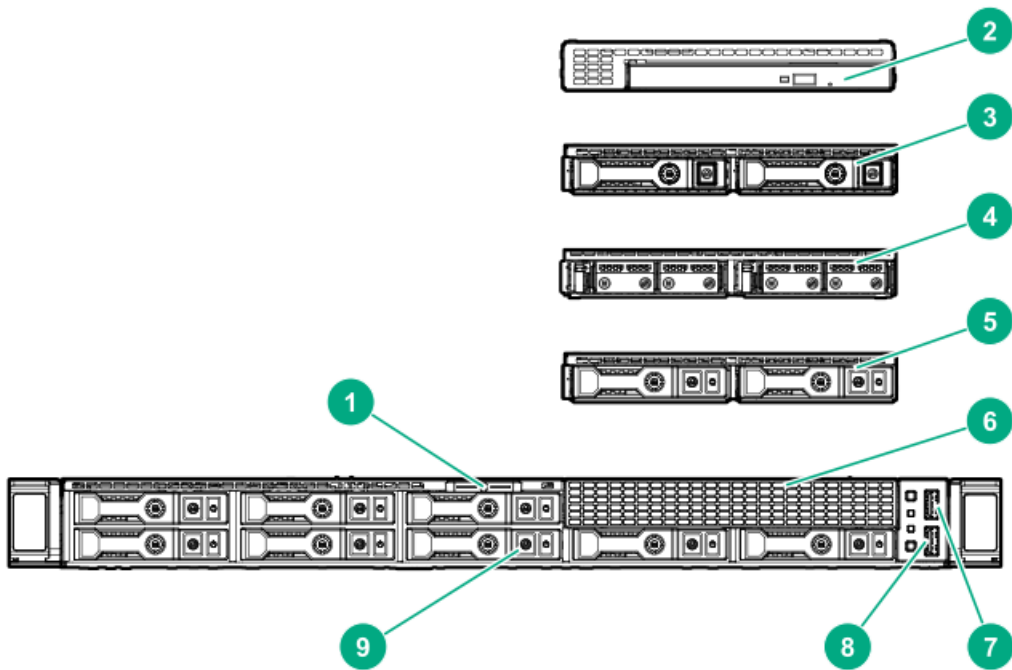


Item	Description
1	Serial number/iLO information pull tab
2	Optical drive cage (optional, for short chassis only)
3	2SFF SAS/SATA/U.3 NVMe drive cage (optional, for short chassis only)
4	2SFF dual uFF M.2 drive cage (optional, for short chassis only)
5	2SFF U.2 NVMe drive cage (optional, cage 1 only) ¹
6	Media bay blank
7	USB 3.0 port
8	<u>iLO service port</u>
9	SFF drive bays (up to 24 SAS/SATA/U.3 NVMe drives)

¹ 2SFF U.2 NVMe is supported with 8SFF SAS/SATA, but not supported with 8SFF U.3 NVMe.

SFF U.2 NVMe drive model

This model is supported with short chassis only.

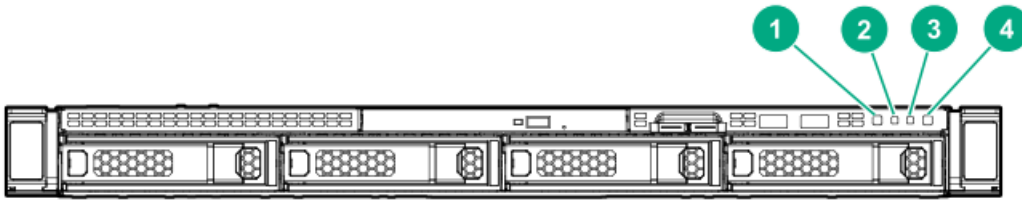


Item	Description
1	Serial number/iLO information pull tab
2	Optical drive cage (optional)
3	2SFF SAS/SATA drive cage (optional)
4	2SFF dual uFF M.2 drive cage (optional)
5	2SFF U.2 NVMe drive cage (optional, cage 1 only)
6	Media bay blank
7	USB 3.0 port
8	iLO service port
9	SFF drive bays (up to 16 U.2 NVMe drives)

Front panel LEDs and buttons

LFF drive model





Item	Description	Status
1	UID button/LED	<p>Solid blue = Activated</p> <p>Flashing blue:</p> <ul style="list-style-type: none"> • 1 flash per second = Remote management or firmware upgrade in progress • 4 flashes per second = iLO manual reboot sequence initiated • 8 flashes per second = iLO manual reboot sequence in progress <p>Off = Deactivated</p>
2	NIC status LED	<p>Solid green = Link to network</p> <p>Flashing green (1 flash per second) = Network active</p> <p>Off = No network activity</p>
3	Health LED	<p>Solid green = Normal</p> <p>Flashing green (1 flash per second) = iLO is rebooting</p> <p>Flashing amber = System degraded ¹</p> <p>Flashing red (1 flash per second) = System critical ¹</p>
4	Power On/Standby button and system power LED	<p>Solid green = System on</p> <p>Flashing green (1 flash per second) = Performing power on sequence</p> <p>Solid amber = System in standby</p> <p>Off = No power present ²</p>

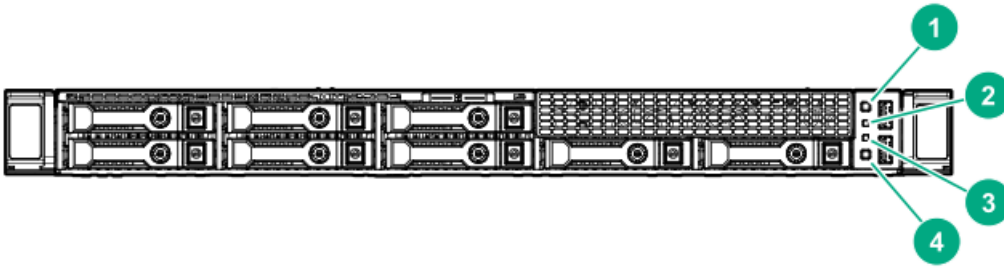
¹ If the health LED indicates a degraded or critical state, review the system Integrated Management Log (IML) or use HPE iLO to review the system health status.

² If the system power LED is off, verify the following conditions:

- Facility power is present.
- The power supply is installed and is working correctly.
- The power cord is attached and is connected to a power source.
- The front I/O cable is connected.

If all LEDs described in this table flash simultaneously, a power fault has occurred. For more information, see " [Power fault LEDs](#)".

SFF drive model



Item	Description	Status
1	Power On/Standby button and system power LED	<p>Solid green = System on</p> <p>Flashing green (1 flash per second) = Performing power on sequence</p> <p>Solid amber = System in standby</p> <p>Off = No power present ¹</p>
2	Health LED	<p>Solid green = Normal</p> <p>Flashing green (1 flash per second) = iLO is rebooting</p> <p>Flashing amber = System degraded ²</p> <p>Flashing red (1 flash per second) = System critical ²</p>
3	NIC status LED	<p>Solid green = Link to network</p> <p>Flashing green (1 flash per second) = Network active</p> <p>Off = No network activity</p>
4	UID button/LED	<p>Solid blue = Activated</p> <p>Flashing blue:</p> <ul style="list-style-type: none"> • 1 flash per second = Remote management or firmware upgrade in progress • 4 flashes per second = iLO manual reboot sequence initiated • 8 flashes per second = iLO manual reboot sequence in progress <p>Off = Deactivated</p>

¹ If the system power LED is off, verify the following conditions:

- Facility power is present.
- The power supply is installed and is working correctly.
- The power cord is attached and is connected to a power source.
- The front I/O cable is connected.

² If the health LED indicates a degraded or critical state, review the system Integrated Management Log (IML) or use HPE iLO to review the system health status.

If all LEDs described in this table flash simultaneously, a power fault has occurred. For more information, see " [Power fault LEDs](#)".

Server UID LED

The UID LED is used to locate a particular server when it is deployed in a dense with other equipment. Activating the UID LED helps an on-site technician to quickly identify a server for maintenance tasks.

Using the UID button to view the Server Health Summary

You can use the UID button to display the iLO Server Health Summary screen on an external monitor. This function works both when the server is powered on or off. Use this feature for troubleshooting if the server will not start up.

⚠ CAUTION: Press and release the UID button. Holding it down at any time for more than five seconds initiates a graceful iLO reboot or a hardware iLO reboot. Data loss or NVRAM corruption might occur during a hardware iLO reboot.

Prerequisites

- An external monitor is connected.
- In the iLO web interface, the Show Server Health on External Monitor feature is enabled on the Access Settings page.

Procedure

1. Press and release the UID button.

The Server Health Summary screen is displayed on the external monitor. For more information, see the iLO troubleshooting guide on the Hewlett Packard Enterprise website (<https://www.hpe.com/support/ilo-docs>).

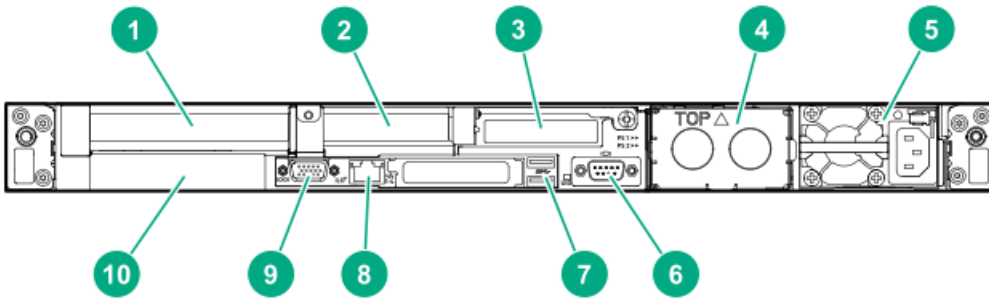
2. Press the UID button again to close the Server Health Summary screen.

Front panel LED power fault codes

The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

Subsystem	LED behavior
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
FlexibleLOM	5 flashes
Storage controller	6 flashes
System board PCIe slots	7 flashes
Power backplane	8 flashes
Storage backplane	9 flashes
Power supply	10 flashes
PCIe expansion cards installed in riser board	11 flashes
Chassis	12 flashes
GPU card	13 flashes

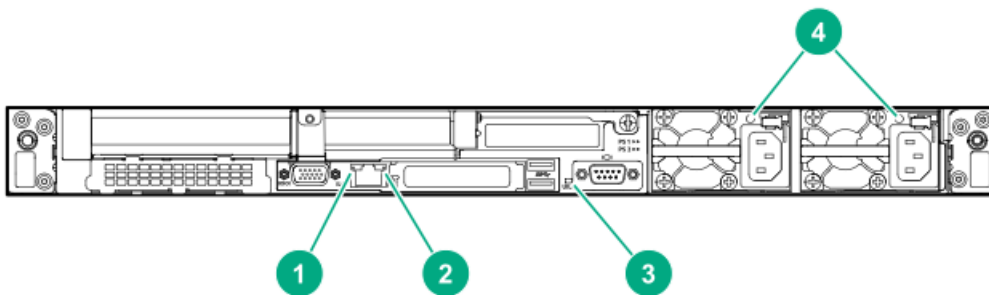
Rear panel components



Item	Description
1	Slot 1 PCIe4 x16 (16, 8, 4, 1) ¹
2	Slot 2 PCIe4 x16 (16, 8, 4, 1) ¹
3	Slot 3 PCIe4 x16 (16, 8, 4, 1) ¹ (optional)
4	Flex Slot power supply 2 (hot-plug, optional)
5	Flex Slot power supply 1 (hot-plug)
6	Serial port (optional)
7	USB 3.0 ports (2)
8	iLO Management port
9	Video port
10	Small OCP NIC 3.0 slot (optional)

¹ For more information, see [PCIe expansion slot definitions](#).

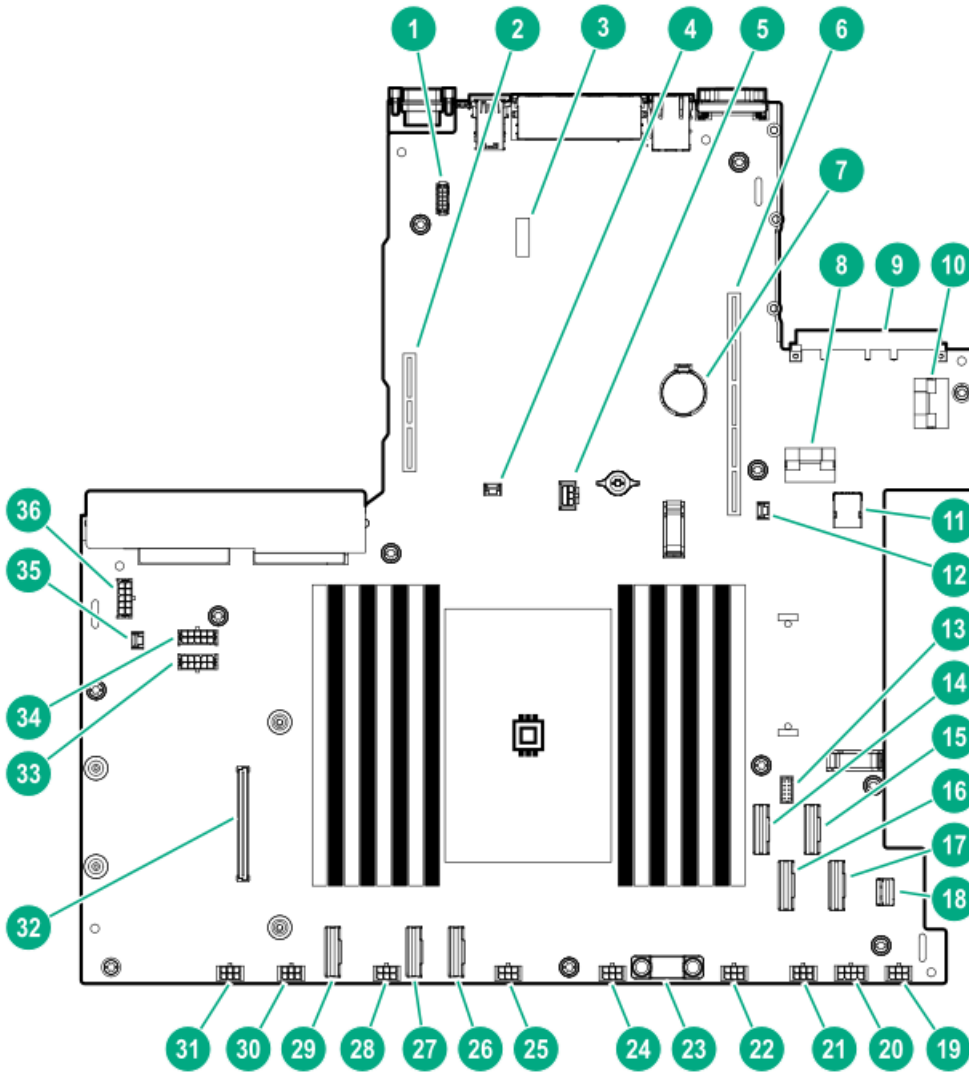
Rear panel LEDs



Item	LED	Status	Definition
------	-----	--------	------------

Item	LED	Status	Definition
1	NIC link	Green	Network link
		Off	No network link
2	NIC status	Solid Green	Linked to network
		Flashing green	Network active
		Off	No network activity
3	UID	Solid blue	Activated
		Flashing blue	1 flash per sec = Remote management or firmware upgrade in progress
			4 flashes per sec = iLO manual reboot sequence initiated
			8 flashes per sec = iLO manual reboot sequence in progress
		Off	Deactivated
4	Power supply	Solid green	Normal
		Off	System is off or power supply has failed.

System board components



Item	Description
1	Serial port connector
2	Secondary PCIe riser connector
3	System maintenance switch
4	Storage controller backup power connector 2
5	GPU power connector 2
6	Primary PCIe riser connector
7	System battery
8	NVMe port 6A
9	OCP NIC 3.0 connector
10	OCP X16 upgrade connector
11	Internal USB 3.0 connector
12	Storage controller backup power connector 1
13	Energy pack connector
14	NVMe/SATA port 9A
15	NVMe port 4A
16	NVMe/SATA port 8A
17	NVMe port 5A

Item	Description
18	Front I/O connector
19	Fan connector 8
20	GPU power connector 1
21	Fan connector 7
22	Fan connector 6
23	TPM connector
24	Fan connector 5
25	Fan connector 4
26	NVMe port 3A
27	NVMe port 1A
28	Fan connector 3
29	NVMe port 2A
30	Fan connector 2
31	Fan connector 1
32	Smart Array modular controller connector/NVMe port 7A
33	Drive backplane power connector 3
34	Drive backplane power connector 2
35	Chassis intrusion detection switch connector
36	Drive backplane power connector 1

System maintenance switch descriptions

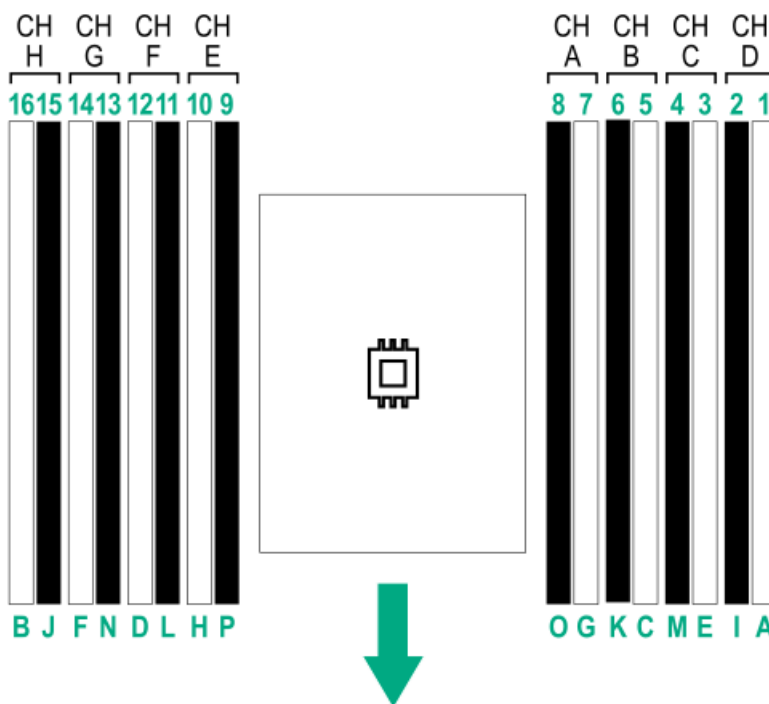
Position	Default	Function
S1 ¹	Off	<ul style="list-style-type: none"> Off = iLO 5 security is enabled. On = iLO 5 security is disabled.
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5 ¹	Off	<ul style="list-style-type: none"> Off = Power-on password is enabled. On = Power-on password is disabled.
S6 ^{1, 2, 3}	Off	<ul style="list-style-type: none"> Off = No function On = Restore default manufacturing settings
S7	Off	Reserved
S8	—	Reserved
S9	—	Reserved
S10	—	Reserved
S11	—	Reserved

Position	Default	Function
S12	—	Reserved

- 1 To access the redundant ROM, set S1, S5, and S6 to On.
- 2 When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.
- 3 When the system maintenance switch position 6 is set to the On position and Secure Boot is enabled, some configurations cannot be restored. For more information, see [Secure Boot](#).

DIMM slot locations

DIMM slots are numbered sequentially (1 through 16). The supported Advance Memory Protection (AMP) modes use the letter assignments for population guidelines.



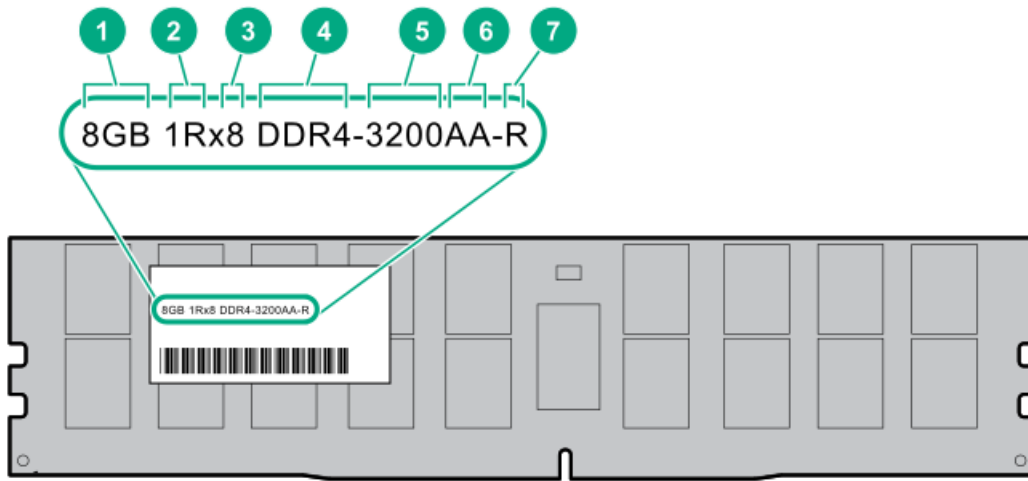
The arrow points to the front of the server.

DIMM label identification

To determine DIMM characteristics, see the label attached to the DIMM. The information in this section helps you to use the label to locate specific information about the DIMM.

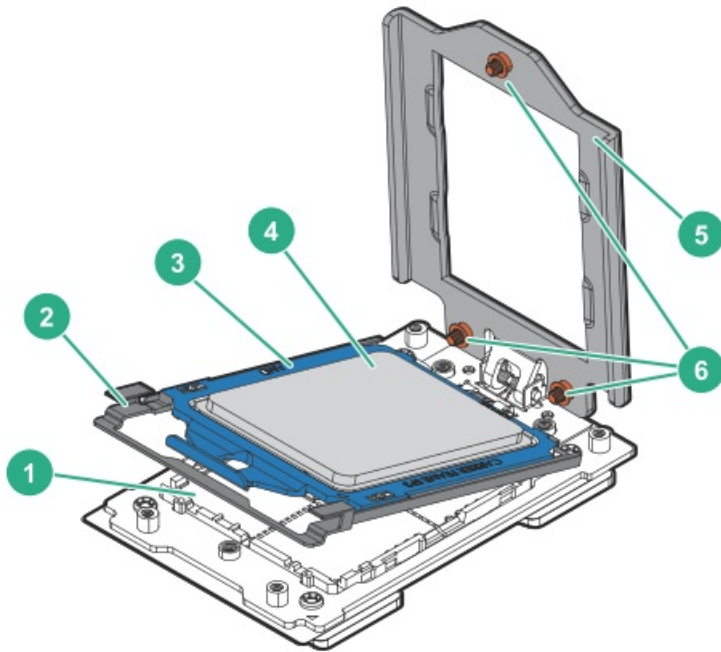
For more information about product features, specifications, options, configurations, and compatibility, see the [HPE DDR4 SmartMemory QuickSpecs](https://www.hpe.com/support/DDR4SmartMemoryQS) on the Hewlett Packard Enterprise website (<https://www.hpe.com/support/DDR4SmartMemoryQS>).





Item	Description	Example
1	Capacity	8 GB 16 GB 32 GB 64 GB 128 GB 256 GB
2	Rank	1R = Single rank 2R = Dual rank 4R = Quad rank 8R = Octal rank
3	Data width on DRAM	x4 = 4-bit x8 = 8-bit
4	Memory generation	PC4 = DDR4
5	Maximum memory speed	3200 MT/s
6	CAS latency	AA = CAS 22-22-22 AA = CAS 26-22-22 (for 3DS LRDIMM)
7	DIMM type	E = Unbuffered ECC (UDIMM) R = RDIMM (registered) L = LRDIMM (load reduced)

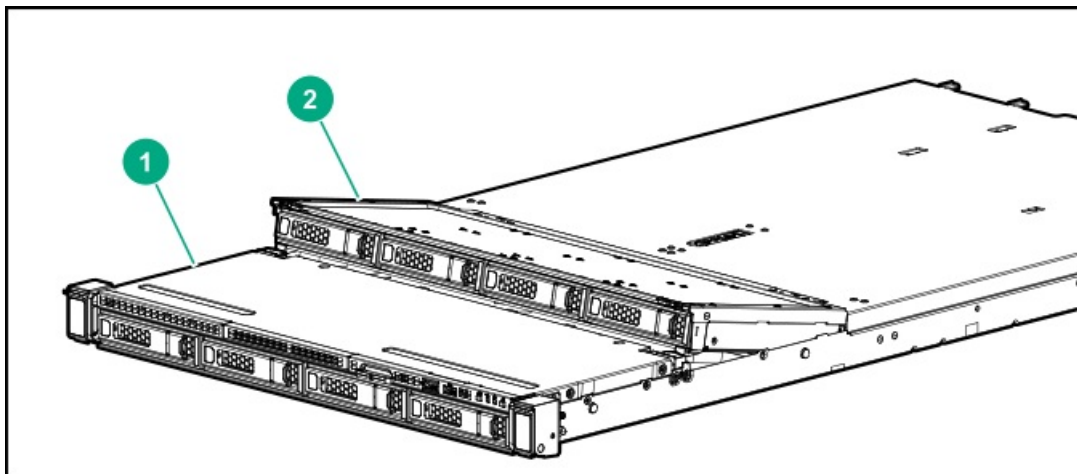
Processor and socket components



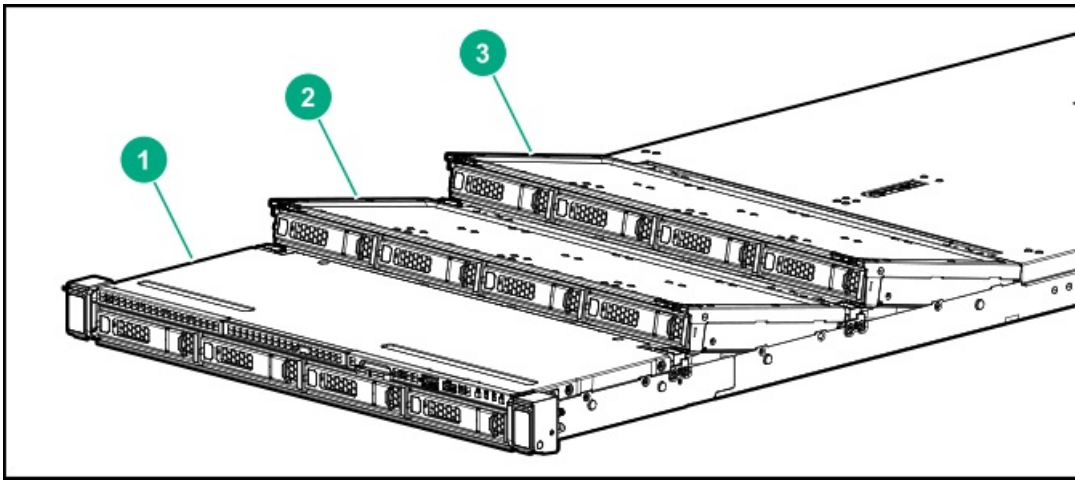
Item	Description
1	Pin field
2	Rail frame
3	Carrier frame
4	Processor
5	Force frame
6	Captive screws (Torx T-20)

Drive box identification

- LFF drive model
 - Short chassis



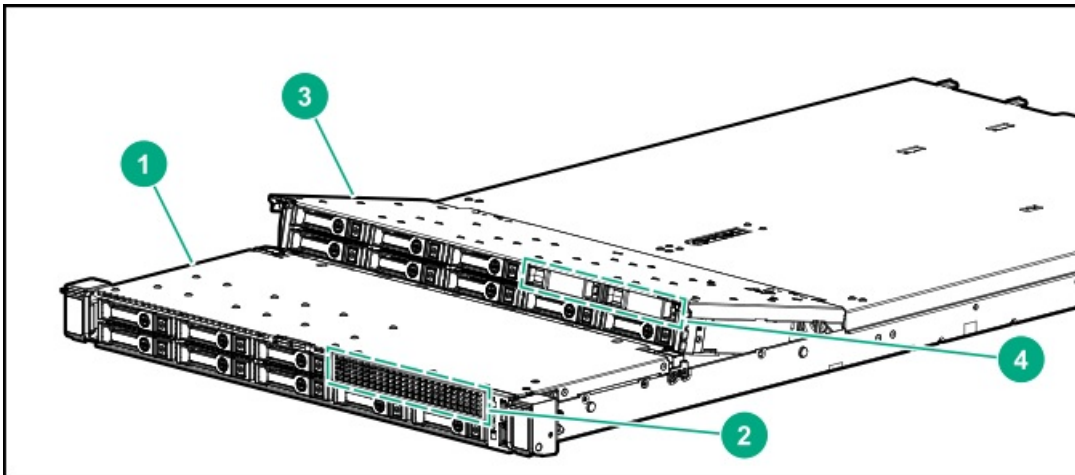
- Long chassis



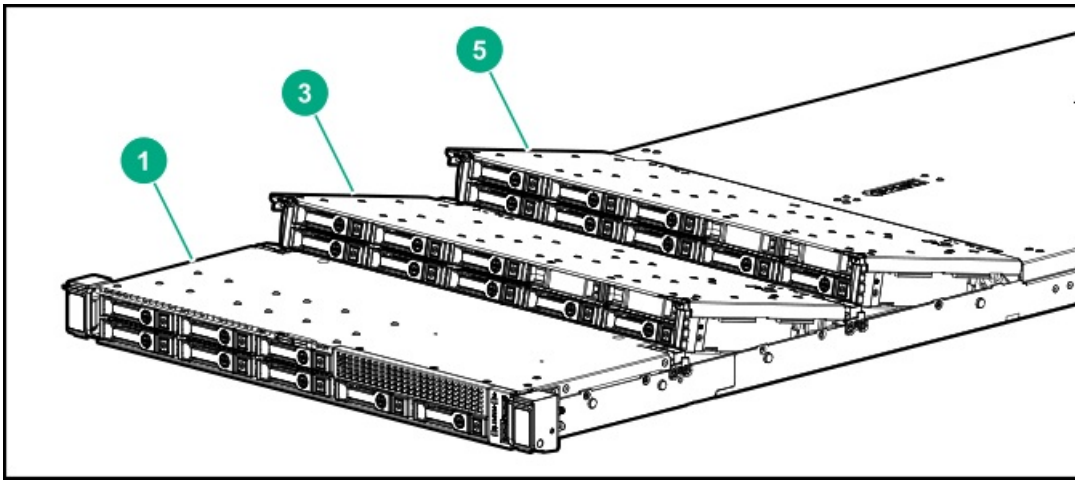
Item	Description
1	Box 1
2	Box 2 ¹
3	Box 3 ¹

¹ Optional

- SFF drive model
 - Short chassis



- Long chassis



NOTE:

2SFF drive cage is not supported in long chassis configuration.

Item	Description
1	Box 1
2	Box 2 ¹
3	Box 3 ¹
4	Box 4 ¹
5	Box 5 ¹

¹ Optional

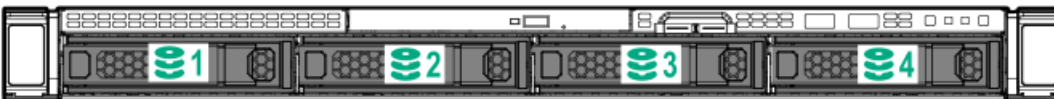
Drive bay numbering

CAUTION:

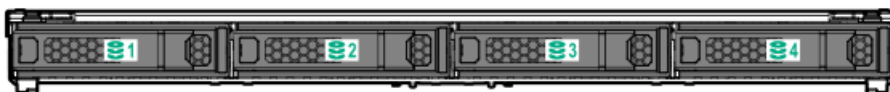
When a server is purchased without any drive installed, some drive bays might be empty while other drive bays might be populated with drive blanks. To maintain proper system cooling, do not operate the server without a drive or a drive blank installed.

- LFF drive model

Box 1

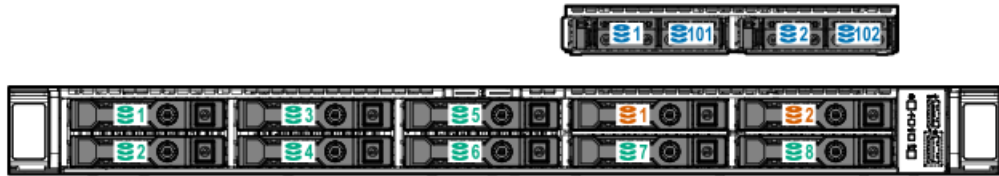


Box 2/Box 3



- SFF drive model

Short Chassis - Box 1/Box 2



Drive numbering color	Description
Green	8SFF SAS/SATA/U.2 or U.3 NVMe drives
Orange	2SFF SAS/SATA/U.2 or U.3 NVMe drives (optional) ¹
Blue	Dual uFF M.2 drives (optional)

¹ 2SFF U.2 NVMe is supported with 8SFF SAS/SATA/U.2 NVMe, but not supported with 8SFF U.3 NVMe.

Short Chassis - Box 3/Box 4



Drive numbering color	Description
Green	8SFF SAS/SATA/U.2 or U.3 NVMe drives
Orange	2SFF SAS/SATA/U.3 NVMe drives (optional) ¹
Blue	Dual uFF M.2 drives (optional)

¹ If 8SFF U.3 NVMe drives are installed in box 3, only 2 SFF U.3 NVMe drives are supported in box 4 using 1-port NVMe adapter due to the cabling limitation.

Long chassis - Box 1

U.2 NVMe drive is not supported in long chassis.



Drive numbering color	Description
Green	8SFF SAS/SATA/U.3 NVMe drives

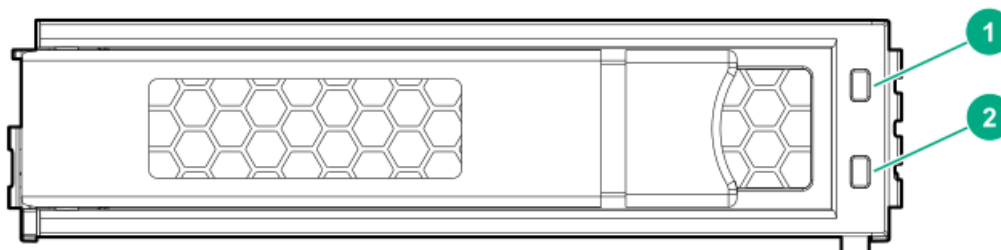
Long chassis - Box 3/Box 5



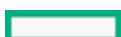
Drive numbering color	Description
Green	8SFF SAS/SATA/U.3 NVMe drives

Drive LEDs and buttons

Low-profile LFF drive LED definitions

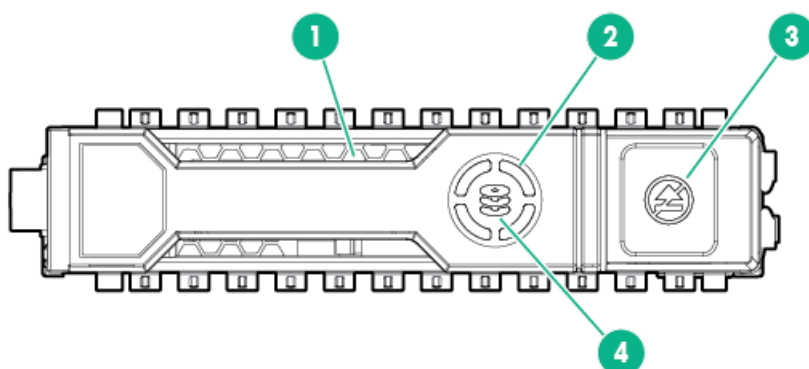


Item	LED	Status	Definition
1	Fault\Locate	Solid amber	The drive has failed.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive; it also has been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
2	Online\Activity	Solid green	The drive is online and has no activity.



Item	LED	Status	Definition
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: <ul style="list-style-type: none"> • Rebuilding • Performing a RAID migration • Performing a strip size migration • Performing a capacity expansion • Performing a logical drive extension • Erasing • Spare part activation
		Off	The drive is not configured by a RAID controller or a spare drive.

Smart Carrier (SC) drive LED definitions



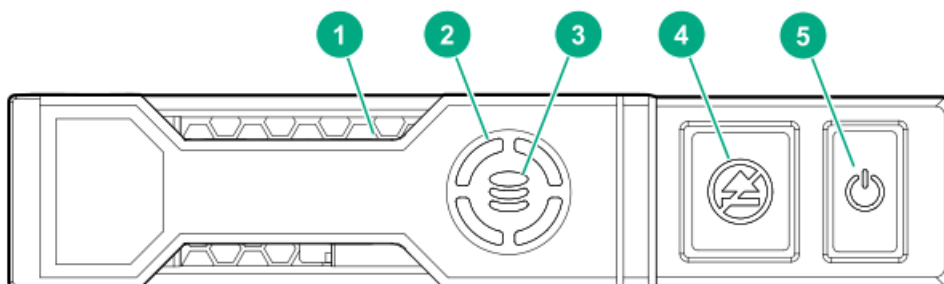
Item	LED	Status	Definition
1	Locate	Solid blue	The drive is being identified by a host application.
		Flashing blue	The drive carrier firmware is being updated or requires an update.
2	Activity ring	Rotating green	Drive activity
		Off	No drive activity
3	Do not remove	Solid white	Do not remove the drive. Removing the drive causes one or more of the logical drives to fail.
		Off	Removing the drive does not cause a logical drive to fail.
4	Drive status	Solid green	The drive is a member of one or more logical drives.

Item	LED	Status	Definition
		Flashing green	The drive is doing one of the following: <ul style="list-style-type: none"> • Rebuilding • Performing a RAID migration • Performing a strip size migration • Performing a capacity expansion • Performing a logical drive extension • Erasing • Spare part activation
		Flashing amber/green	The drive is a member of one or more logical drives and predicts the drive will fail.
		Flashing amber	The drive is not configured and predicts the drive will fail.
		Solid amber	The drive has failed.
		Off	The drive is not configured by a RAID controller or a spare drive.

Smart Carrier NVMe (SCN) drive LED definitions

The NVMe drive is a PCIe bus device. A device attached to a PCIe bus cannot be removed without allowing the device and bus to complete and cease the signal/traffic flow.

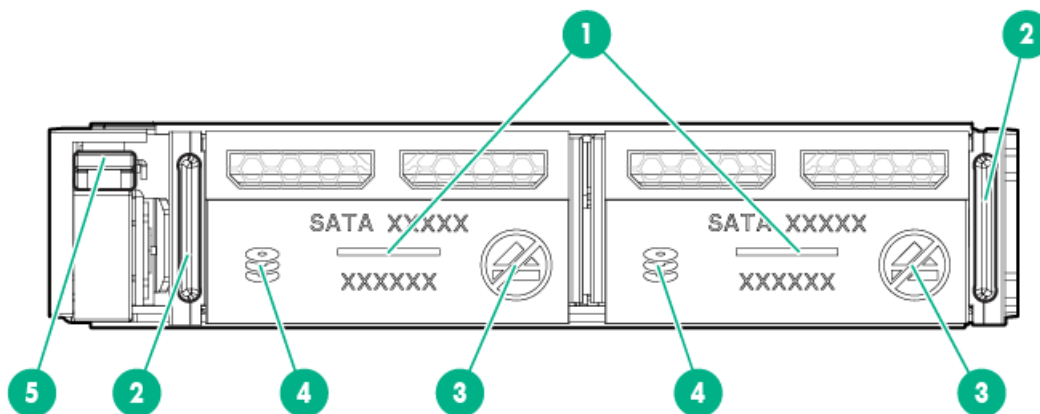
CAUTION: Do not remove an NVMe drive from the drive bay while the Do not remove LED is flashing. The Do not remove LED flashes to indicate that the device is still in use. Removing the NVMe drive before the device has completed and ceased signal/traffic flow can cause loss of data.



Item	LED	Status	Definition
1	Locate	Solid blue	The drive is being identified by a host application.
		Flashing blue	The drive carrier firmware is being updated or requires an update.
2	Activity ring	Rotating green	Drive activity
		Off	No drive activity
3	Drive status	Solid green	The drive is a member of one or more logical drives.

Item	LED	Status	Definition
		Flashing green	The drive is doing one of the following: <ul style="list-style-type: none"> Rebuilding Performing a RAID migration Performing a stripe size migration Performing a capacity expansion Performing a logical drive extension Erasing
		Flashing amber/green	The drive is a member of one or more logical drives and predicts the drive will fail.
		Flashing amber	The drive is not configured and predicts the drive will fail.
		Solid amber	The drive has failed.
		Off	The drive is not configured by a RAID controller.
4	Do not remove	Solid white	Do not remove the drive. The drive must be ejected from the PCIe bus prior to removal.
		Flashing white	The drive ejection request is pending.
		Off	The drive has been ejected.
5	Power	Solid green	Do not remove the drive. The drive must be ejected from the PCIe bus prior to removal.
		Flashing green	The drive ejection request is pending.
		Off	The drive has been ejected.

uFF drive components and LEDs



Item	Description	Status
1	Locate	<ul style="list-style-type: none"> Off—Normal Solid blue—The drive is being identified by a host application Flashing blue—The drive firmware is being updated or requires an update
2	uFF drive ejector latch	Removes the uFF drive when released

Item	Description	Status
3	Do not remove LED	<ul style="list-style-type: none"> Off—OK to remove the drive. Removing the drive does not cause a logical drive to fail. Solid white—Do not remove the drive. Removing the drive causes one or more of the logical drives to fail.
4	Drive status LED	<ul style="list-style-type: none"> Off—The drive is not configured by a RAID controller Solid green—The drive is a member of one or more logical drives Flashing green (4 Hz)—The drive is operating normally and has activity Flashing green (1 Hz)—The drive is rebuilding or performing a RAID migration, stripe size migration, capacity expansion, logical drive extension, or is erasing Flashing amber/green (1 Hz)—The drive is a member of one or more logical drives that predicts the drive will fail Solid amber—The drive has failed Flashing amber (1 Hz)—The drive is not configured and predicts the drive will fail
5	Adapter ejection release latch and handle	Removes the SFF flash adapter when released

PCIe expansion slot definitions

Slot number	Type	Form factor	Connector link width	Negotiable link width
1 ¹	PCIe 4.0	Full-height/full-length	x16	16, 8, 4, 1
2 ²	PCIe 4.0	Half-height/half-length	x16	16, 8, 4, 1
3 ³	PCIe 4.0	Half-height/half-length	x16	16, 8, 4, 1
		or		
		Full-height/half-length		

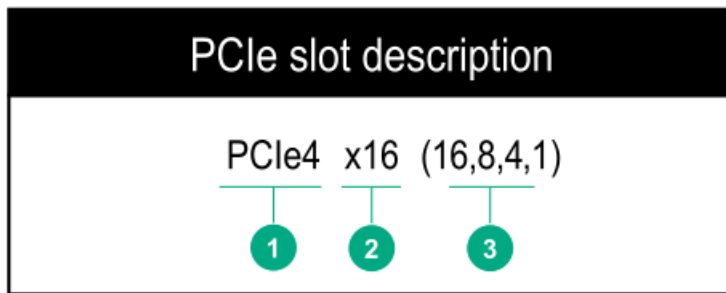
¹ HPE Smart Array plug-in controller is not supported in slot 1 due to the cable limitation.

² Slot 2 is not available when a slimline primary riser or full-height secondary riser is installed.

³ Slot 3 is not available when a slimline secondary riser is installed.

For more information about risers, see [Riser board components](#).

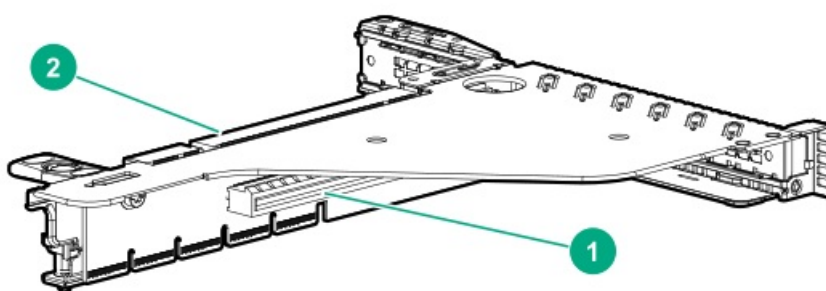
PCIe4 slot description



Item	Description	Definition
1	PCI Express version	<p>Each PCIe version corresponds to a specific data transfer rate between the processor and peripheral devices. Generally, a version update corresponds to an increase in transfer rate.</p> <ul style="list-style-type: none"> • PCIe 1.x • PCIe 2.x • PCIe 3.x • PCIe 4.x <p>The PCIe technology is under constant development. For the latest information, see the PCI-SIG website.</p>
2	Physical connector link width	<p>PCIe devices communicate through a logical connection called an interconnect or link. At the physical level, a link is composed of one or more lanes. The number of lanes is written with an x prefix with x16 being the largest size in common use.</p> <ul style="list-style-type: none"> • x1 • x2 • x4 • x8 • x16
3	Negotiable link width	<p>These numbers correspond to the maximum link bandwidth supported by the slot.</p>

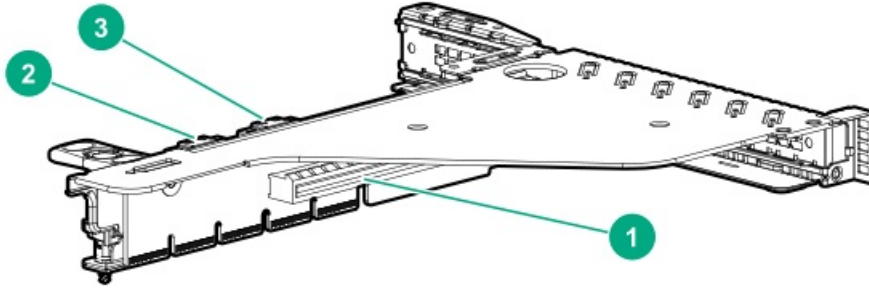
Riser board components

Standard primary riser



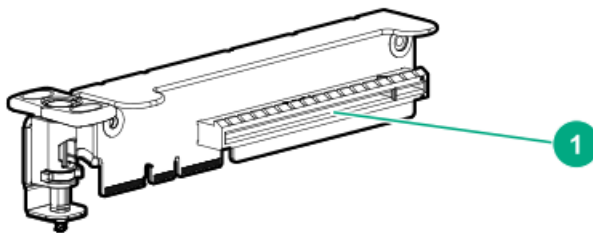
Item	Description
1	PCIe4 x16 (16, 8, 4, 1) slot
2	PCIe4 x16 (16, 8, 4, 1) slot

Slimline primary riser



Item	Description
1	PCIe4 x16 (16, 8, 4, 1) slot
2-3	Slimline connectors

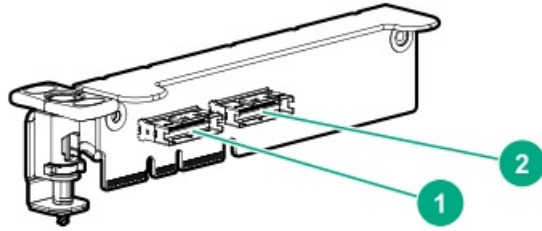
Standard secondary riser



Item	Description
1	PCIe4 x16 (16, 8, 4, 1) slot

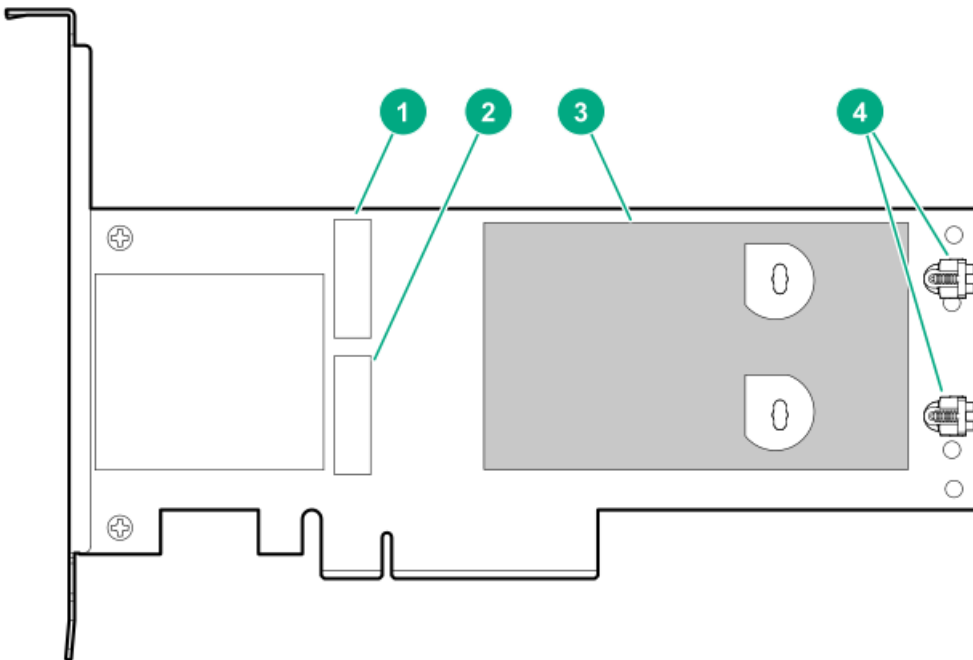
Slimline secondary riser





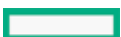
Item	Description
1 -2	Slimline connectors

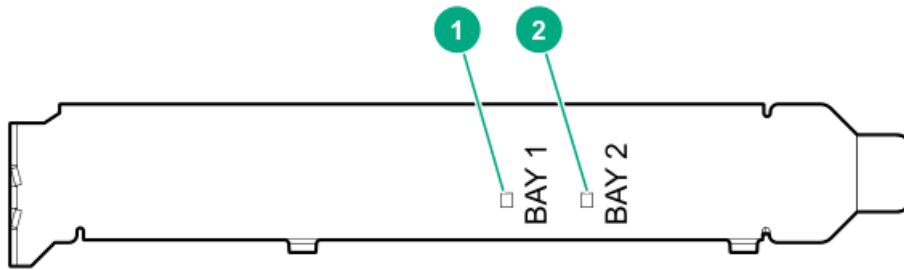
HPE NS204i-p NVMe OS Boot Device components



Item	Description
1	Drive bay 1
2	Drive bay 2
3	Thermal interface pad with removable liner
4	M.2 drive retaining latches

HPE NS204i-p NVMe OS Boot Device LED definitions





Item	Description	Fault LED status
1	Bay 1 LED	Off: Normal
2	Bay 2 LED	Flashing 1Hz: Drive predictive failure Amber: Drive failure

Fan bay numbering



The arrow points to the front of the server.

Cabling

This chapter includes cabling guidelines and diagrams for internal component cabling.

Cabling guidelines

The cable colors in the cabling diagrams used in this chapter are for illustration purposes only. Most of the system cables are black.

Observe the following guidelines when working with system cables.

Before connecting cables

- Note the port labels on the PCA components. Not all of these components are used by all systems:
 - System board ports

- Drive and power supply backplane ports
- Expansion card ports (controllers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are pre-bent. Do not unbend or manipulate the cables.
- To prevent mechanical damage or depositing oil that is present on your hands, and other contamination, do not touch the ends of the connectors.

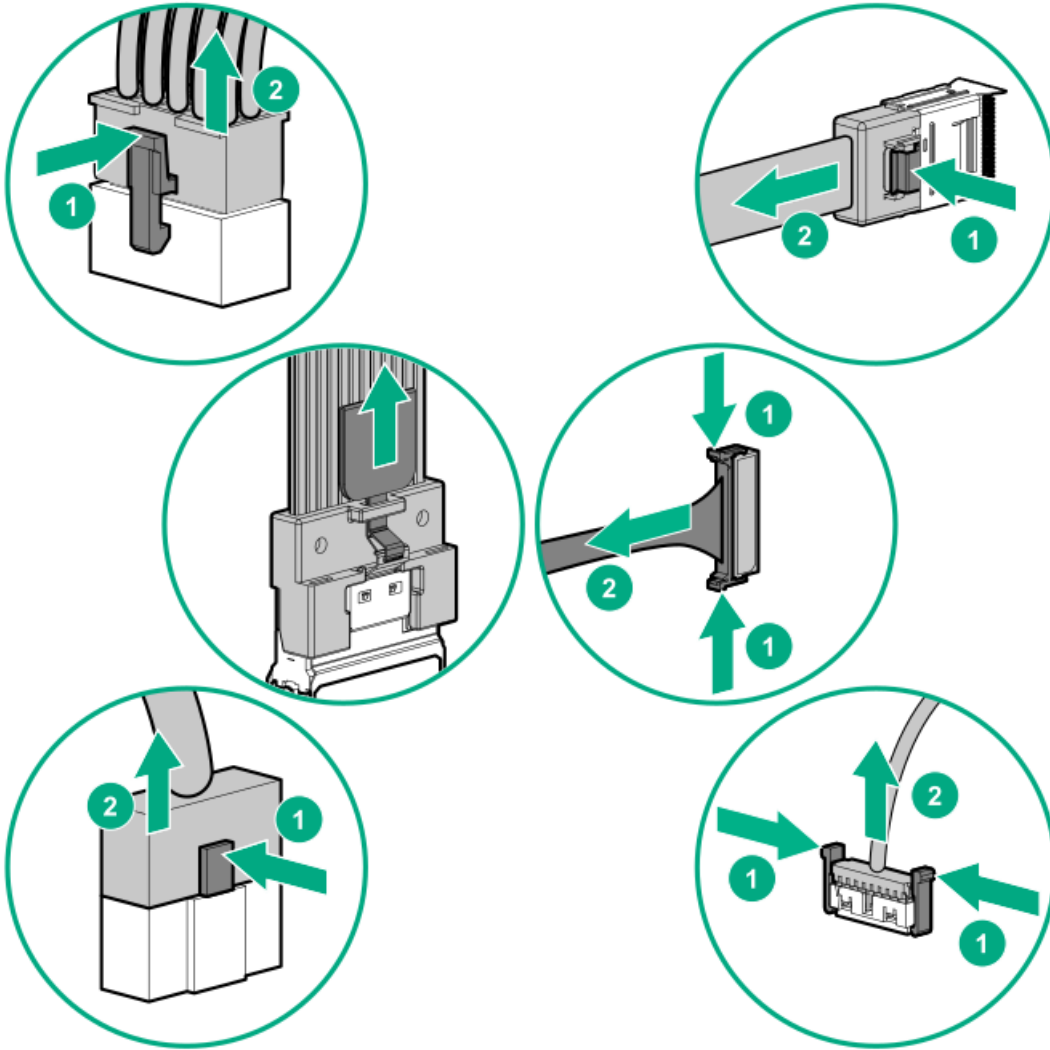
When connecting cables

- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight bend radii to prevent damaging the internal wires of a power cord or a server cable. Never bend power cords and server cables tight enough to cause a crease in the sheathing.
- Make sure that the excess length of cables are properly secured to avoid excess bends, interference issues, and airflow restriction.
- To prevent component damage and potential signal interference, make sure that all cables are in their appropriate routing position before installing a new component and before closing up the system after hardware installation/maintenance.

When disconnecting cables

- Grip the body of the cable connector. Do not pull on the cable itself because this action can damage the internal wires of the cable or the pins on the port.
- If a cable does not disconnect easily, check for any release latch that must be pressed to disconnect the cable.

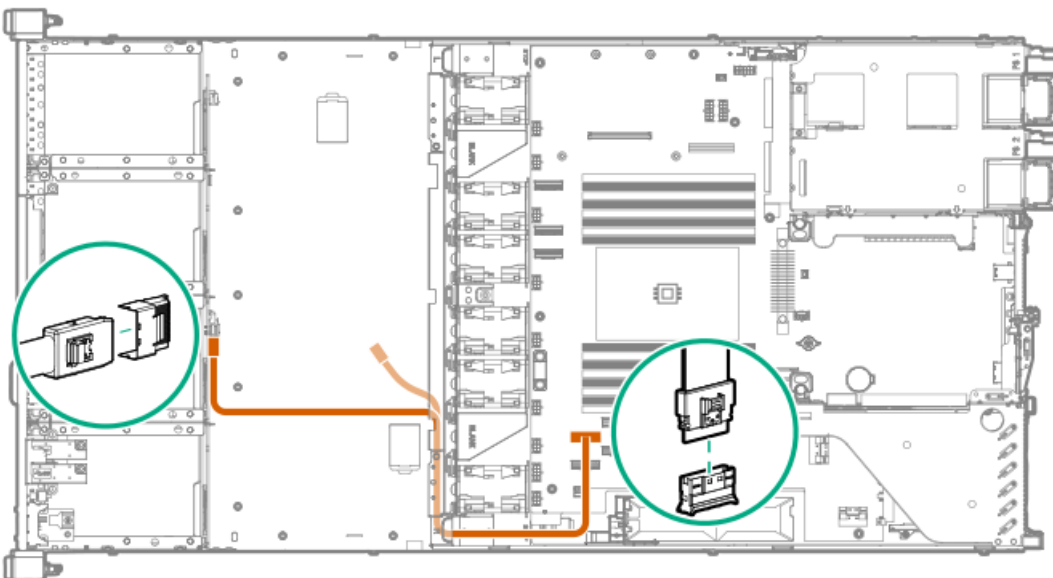




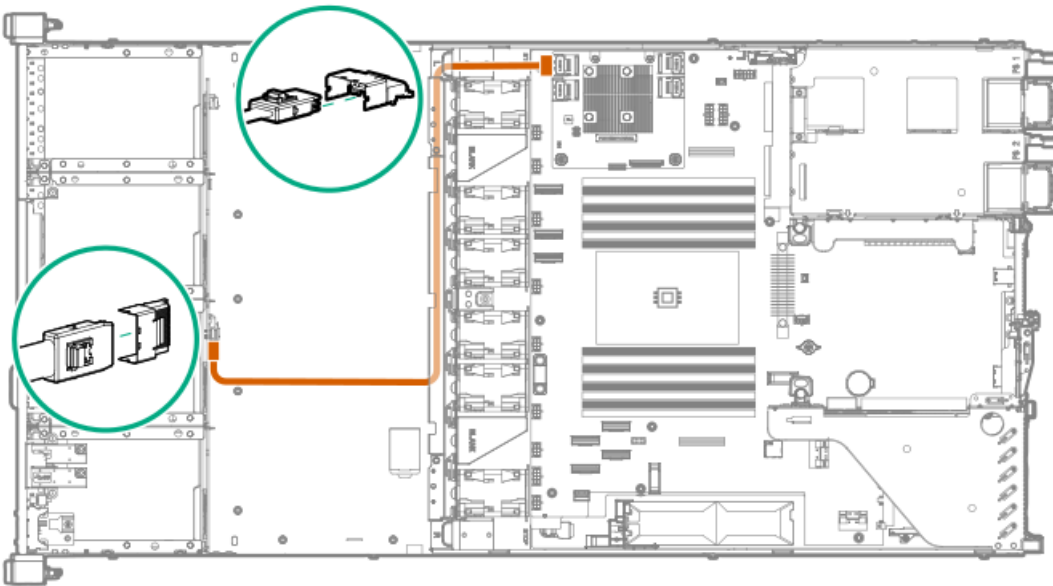
- Remove cables that are no longer being used. Retaining them inside the system can restrict airflow. If you intend to use the removed cables later, label and store them for future use.

Cable routing: 4/8LFF drive model

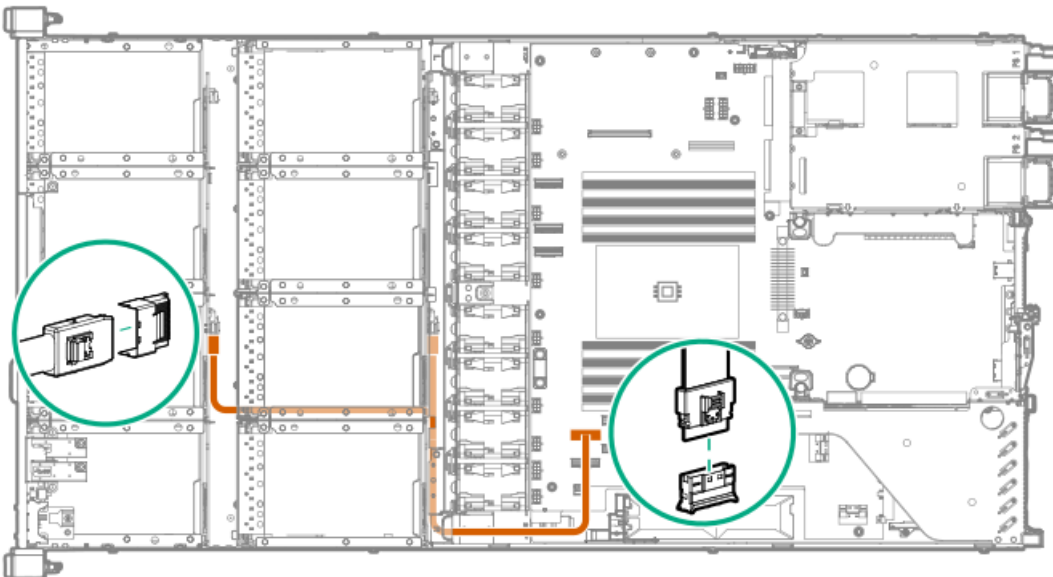
- 4LFF SATA drives (box 1) connected to system board



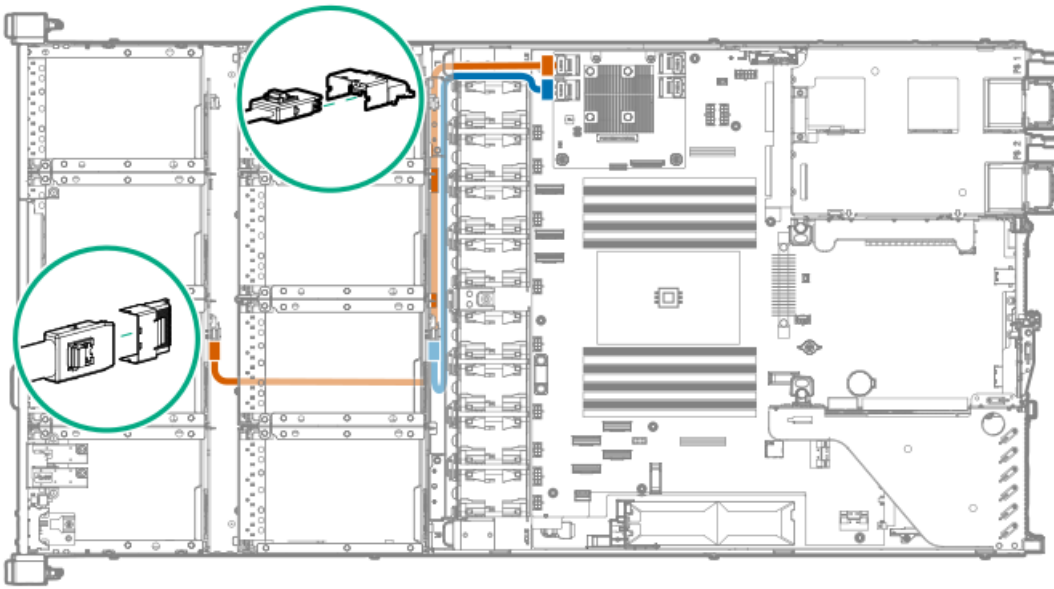
- 4LFF SAS/SATA drives (box 1) connected to HPE Smart Array type-a modular controller



- 8LFF SATA drives (box 1 and 2) connected to system board



- 8LFF SAS/SATA drives (box 1 and 2) connected to HPE Smart Array type-a modular controller

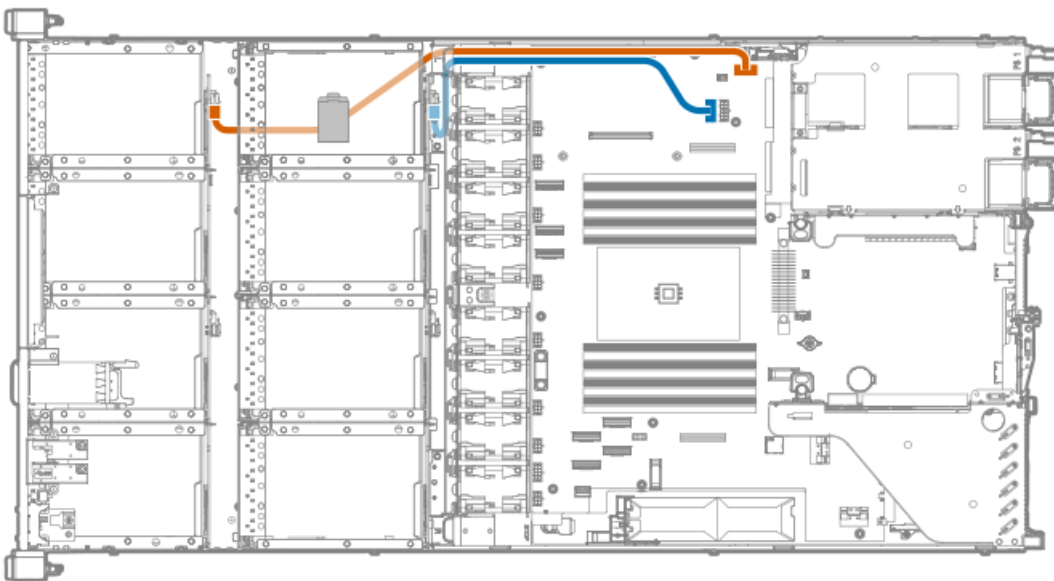


Cable Description
color

Orange Mini-SAS cable from box 1 drive backplane port 1 to type-a controller port 1

Blue Mini-SAS cable from box 2 drive backplane port 1 to type-a controller port 2

- LFF drive power cabling



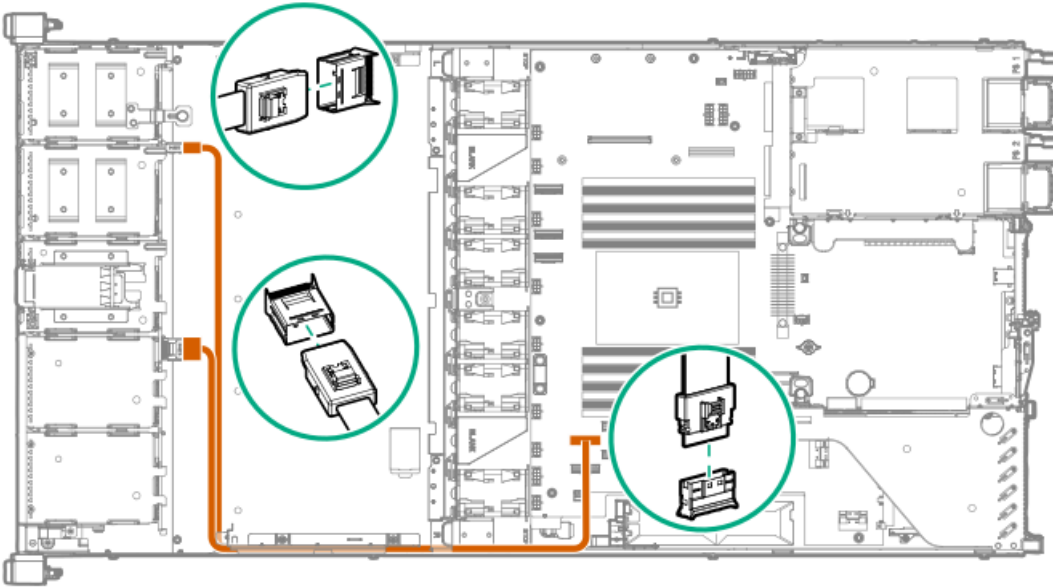
Cable Description
color

Orange Power cable from box 1 drive backplane to system board power connector 1

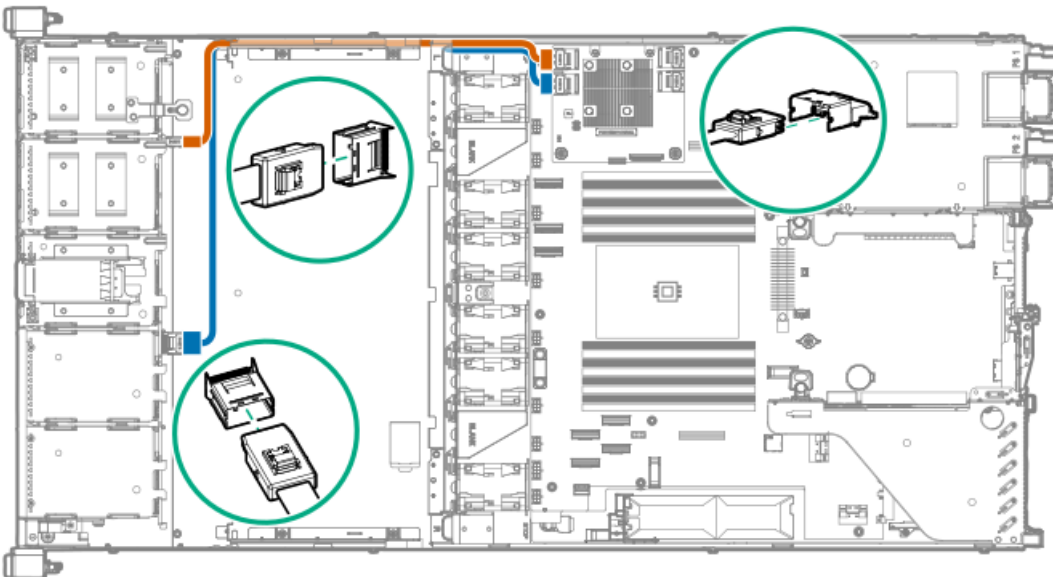
Blue Power cable from box 2 drive backplane to system board power connector 3

Cable routing: 8/16/20SFF SAS/SATA drive model

- 8SFF SATA drives (box 1) connected to system board



- 8SFF SAS/SATA drives (box 1) connected to HPE Smart Array type-a modular controller



Cable **Description**
color

Orange Mini-SAS cable from box 1 drive backplane port 1 to type-a controllerport 1

Blue Mini-SAS cable from box 1 drive backplane port 2 to type-a controller port 2

- 10SFF SAS/SATA drives (box 1 and 2) connected to HPE Smart Array type-a modular controller, P816i-a

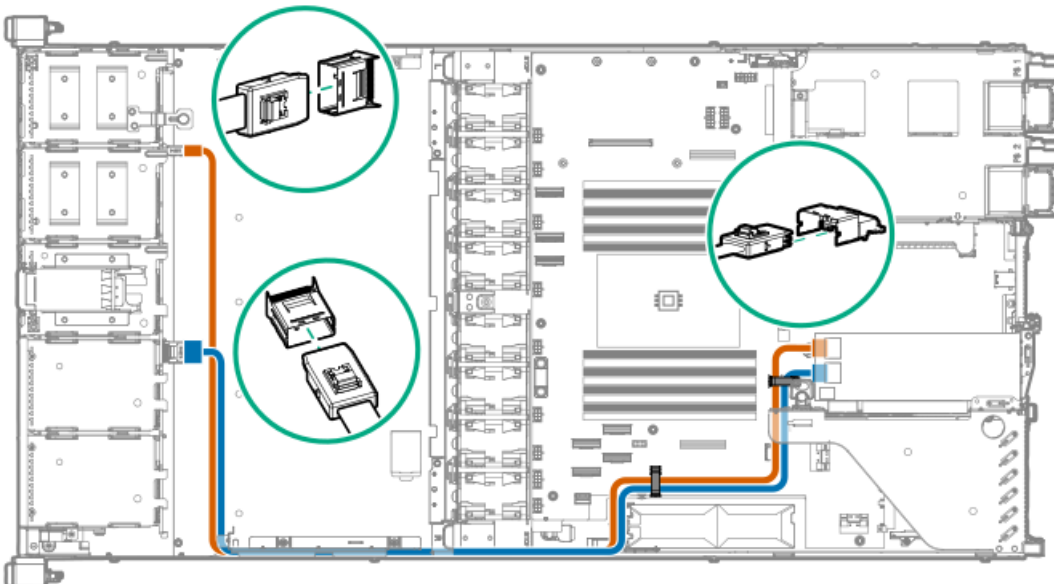


Cable Description
color

Orange	Mini-SAS cable from box 1 drive backplane port 1 to type-a controller port 1
Blue	Mini-SAS cable from box 1 drive backplane port 2 to type-a controller port 2
Gold	Mini-SAS cable from box 2 drive backplane port 1 to type-a controller port 3

- 8SFF SAS/SATA drives (box 1) connected to HPE Smart Array PCIe plug-in controller

This illustration shows the cabling for PCIe plug-in controller installed in slot 2. The cabling for PCIe plug-in controller installed in slot 3 is similar.



Cable Description
color

Orange	Mini-SAS cable from box 1 drive backplane port 1 to type-p controller port 2
Blue	Mini-SAS cable from box 1 drive backplane port 2 to type-p controller port 1

- 16SFF SAS/SATA drives (box 1 and 3) connected to HPE Smart Array type-a modular controller, P816i-a



Cable Description
color

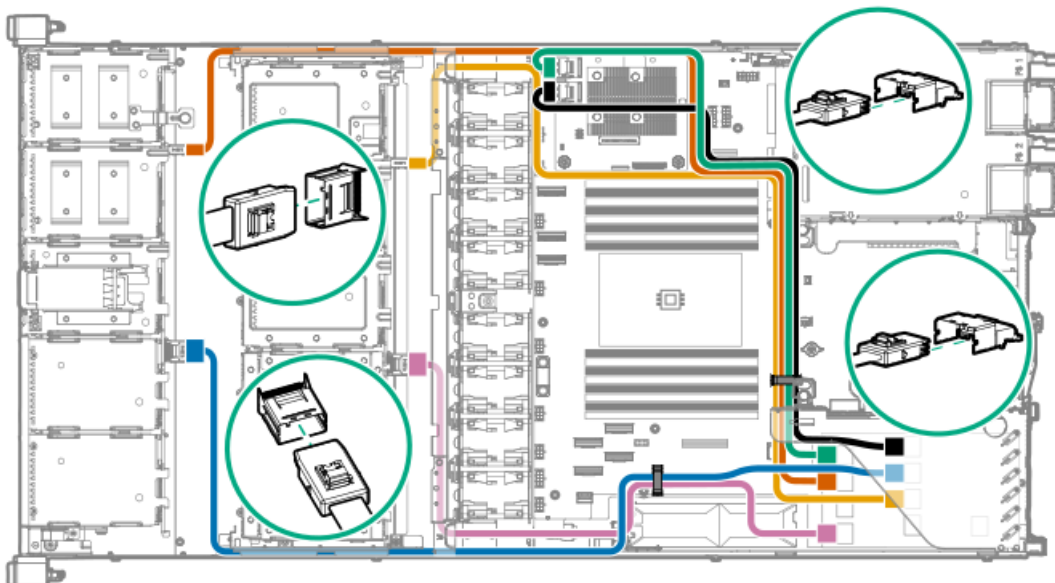
Orange Mini-SAS cable from box 1 drive backplane port 1 to type-a controller port 1

Blue Mini-SAS cable from box 1 drive backplane port 2 to type-a controller port 2

Gold Mini-SAS cable from box 3 drive backplane port 1 to type-a controller port 3

Pink Mini-SAS cable from box 3 drive backplane port 2 to type-a controller port 4

- 20SFF SAS/SATA Configuration
 - 16SFF SAS/SATA drives (box 1 and 3) connected to SAS expander and HPE Smart Array type-a modular controller



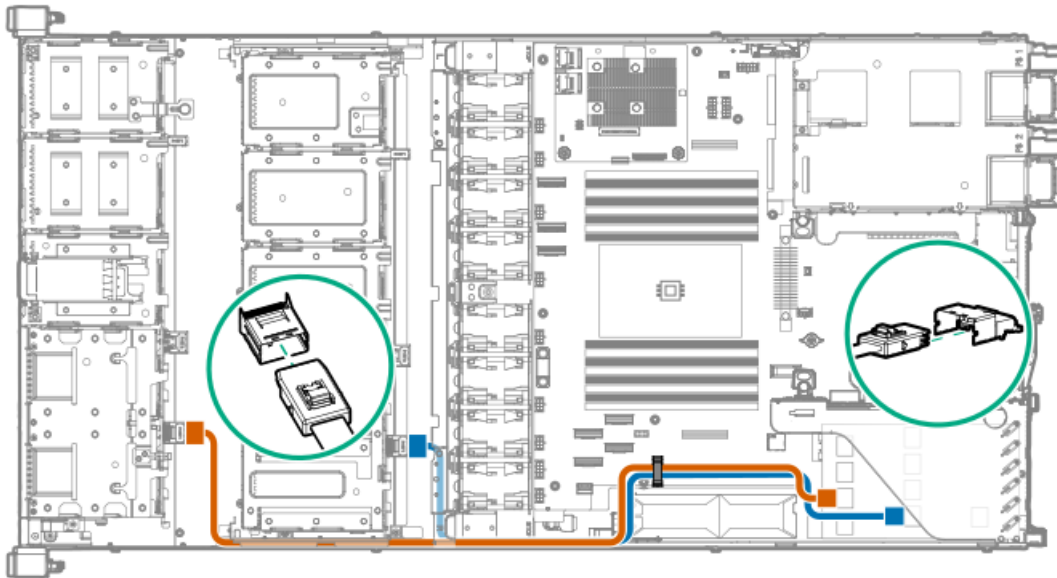
Cable Description
color

Orange Mini-SAS cable from SAS expander port 3 to box 1 drive backplane port 1

Cable color **Description**

Blue	Mini-SAS cable from SAS expander port 4 to box 1 drive backplane port 2
Gold	Mini-SAS cable from SAS expander port 6 to box 3 drive backplane port 1
Pink	Mini-SAS cable from SAS expander port 7 to box 3 drive backplane port 2
Green	Mini-SAS cable from SAS expander port 1 to type-a controller port 1
Black	Mini-SAS cable from SAS expander port 2 to type-a controller port 2

- 4SFF SAS/SATA drives (box 2 and 4) connected to SAS expander

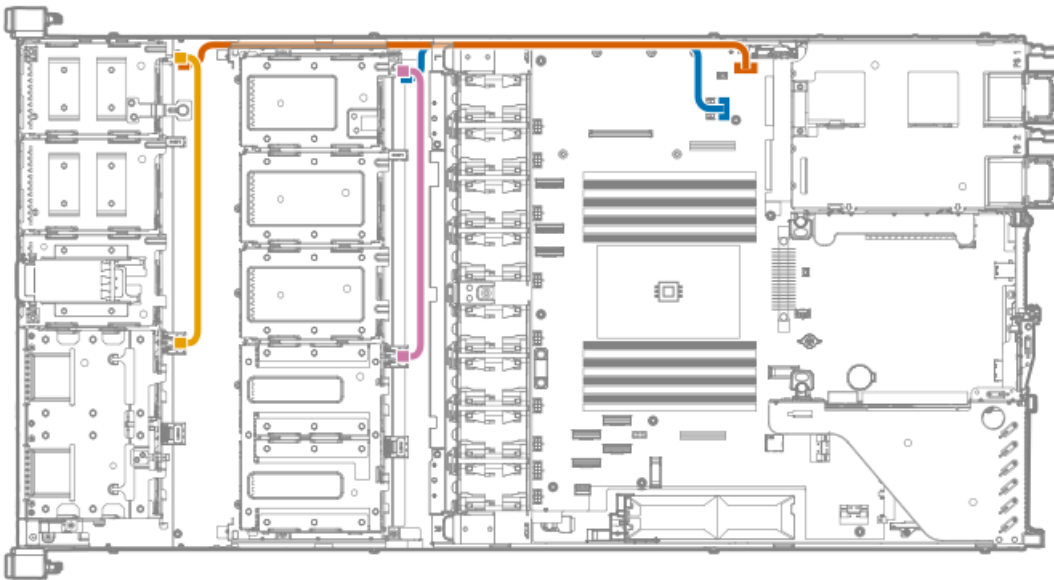


Cable color **Description**

Orange	Mini-SAS cable from SAS expander port 5 to box 2 drive backplane port 1
Blue	Mini-SAS cable from SAS expander port 8 to box 4 drive backplane port 1

- SFF drive power cabling



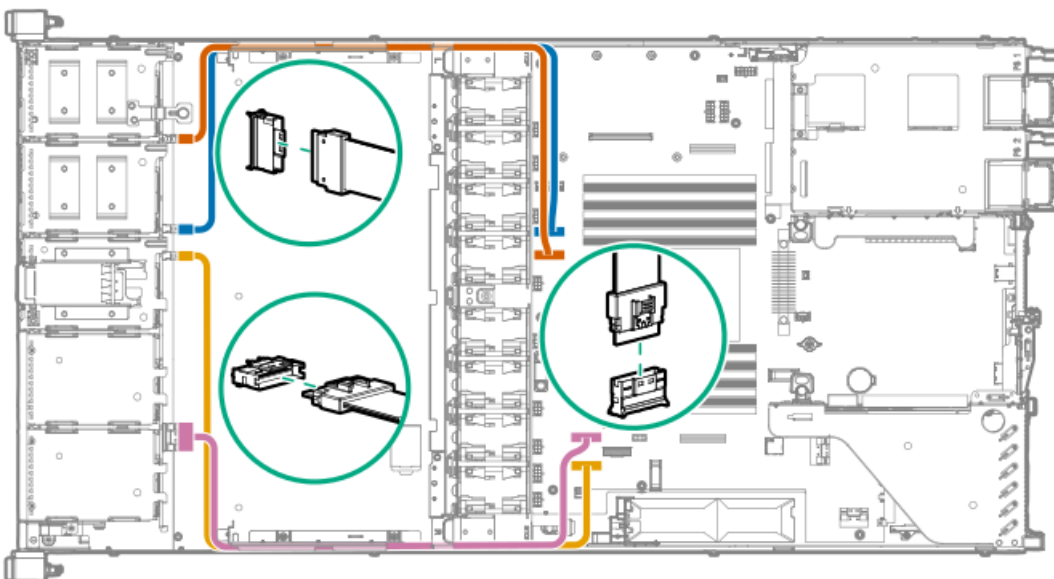


Cable Description
color

Orange	Power cable from box 1 drive backplane to system board power connector 1
Blue	Power cable from box 3 drive backplane to system board power connector 2
Gold	Power cable from box 1 8SFF drive backplane to box 2 2SFF drive backplane
Pink	Power cable from box 3 8SFF drive backplane to box 4 2SFF drive backplane

Cable routing: 8/16SFF U.2/U.3 NVMe drive model

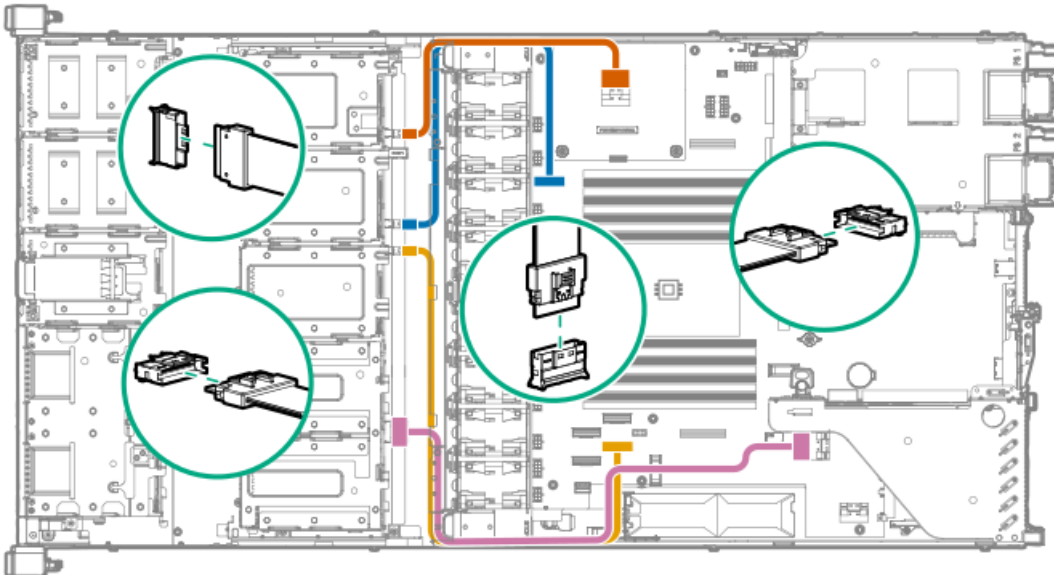
- 8SFF U.2 NVMe drives (box 1) connected to system board



Item	Description
Orange	Slimline cable from box 1 drive backplane port 1 to NVMe port 3A on system board

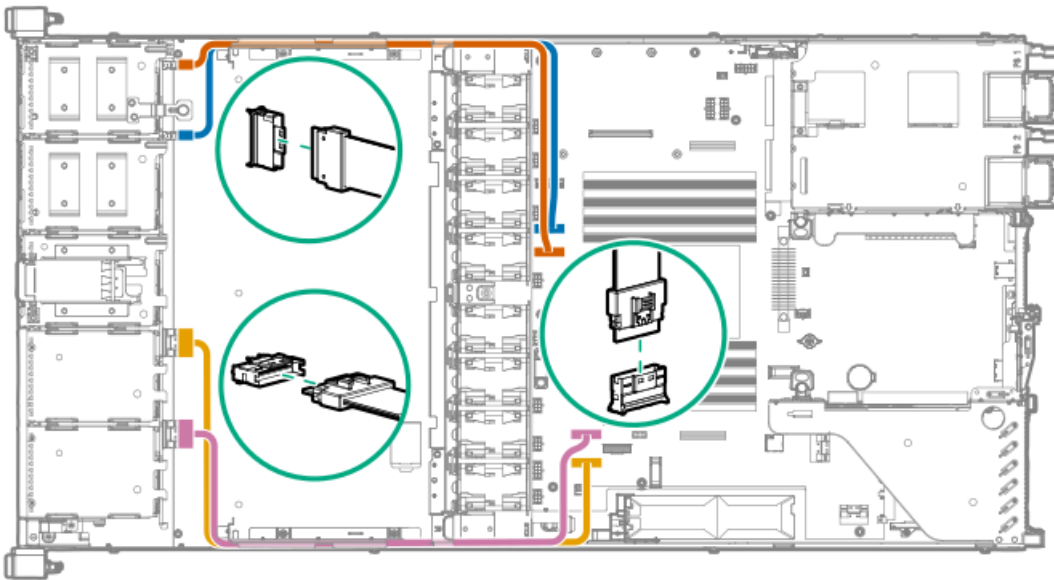
Item	Description
Blue	Slimline cable from box 1 drive backplane port 2 to NVMe port 1A on system board
Gold	Slimline cable from box 1 drive backplane port 3 to NVMe port 5A on system board
Pink	Slimline cable from box 1 drive backplane port 4 to NVMe port 8A on system board

- 8SFF U.2 NVMe drives (box 3) connected to 1-port NVMe adapter and system board



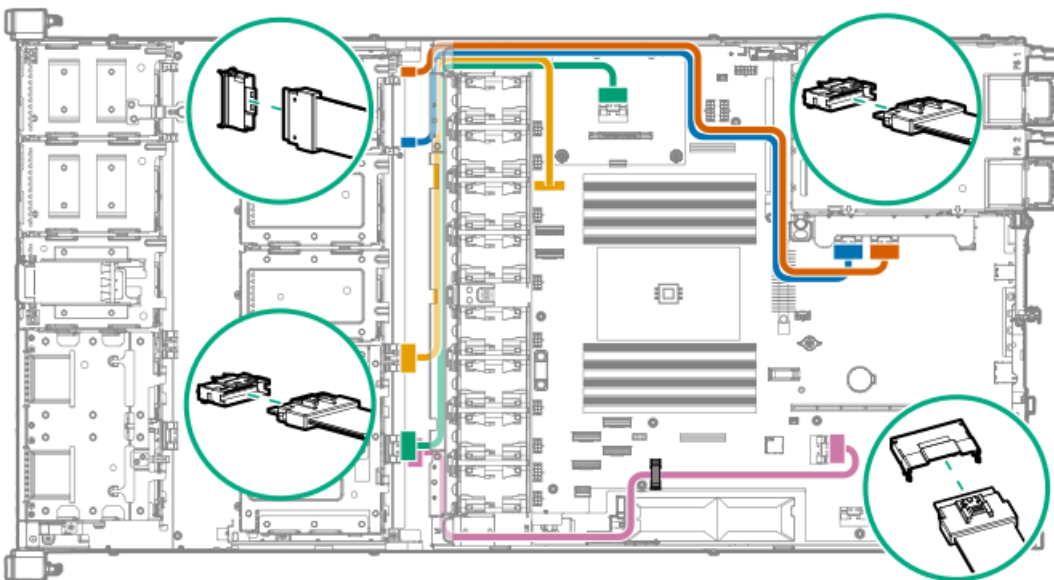
Item	Description
Orange	Slimline cable from box 3 drive backplane port 1 to NVMe port 7A on 1-port NVMe adapter
Blue	Slimline cable from box 3 drive backplane port 2 to NVMe port 2A on system board
Gold	Slimline cable from box 3 drive backplane port 3 to NVMe port 4A on system board
Pink	Slimline cable from box 3 drive backplane port 4 to NVMe port 6A on system board

- 8SFF U.3 NVMe drives (box 1) connected to system board



Item	Description
Orange	Slimline cable from box 1 drive backplane port 1 to NVMe port 3A on system board
Blue	Slimline cable from box 1 drive backplane port 2 to NVMe port 1A on system board
Gold	Slimline cable from box 1 drive backplane port 3 to NVMe port 5A on system board
Pink	Slimline cable from box 1 drive backplane port 4 to NVMe port 8A on system board

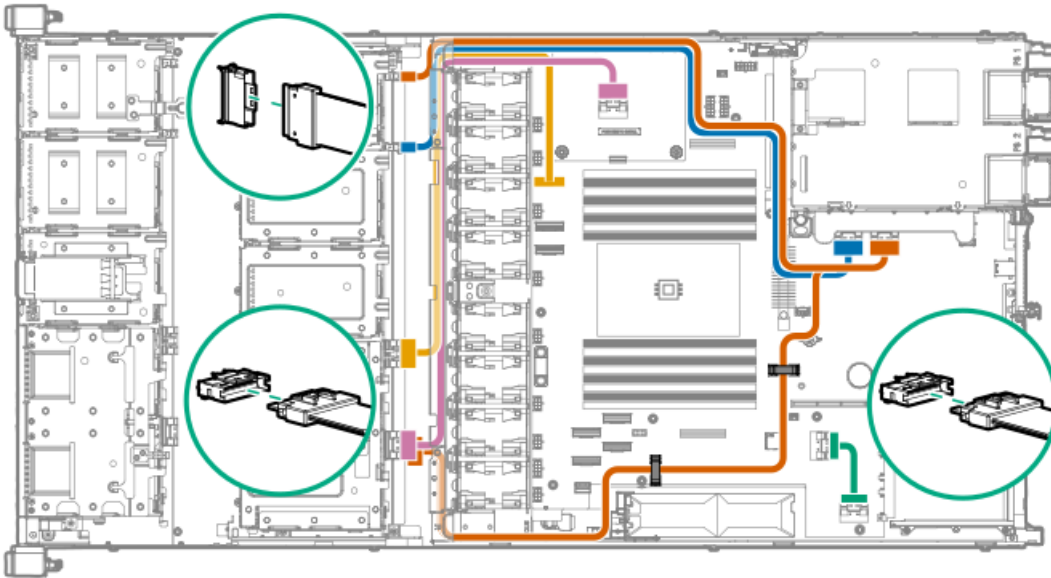
- 8+2 U.3 NVMe drives (box 3 and 4) connected to system board, riser, and 1-port NVMe adapter



Item	Description
Orange	Slimline cable from box 3 drive backplane port 1 to port 2B on secondary riser
Blue	Slimline cable from box 3 drive backplane port 2 to port 1B on secondary riser
Gold	Slimline cable from box 3 drive backplane port 3 to port 2A on system board
Pink	Slimline cable from box 3 drive backplane port 4 to port 6A on system board
Green	Slimline cable from box 4 drive backplane port 1 to port 7A on 1-port NVMe adapter

Item	Description
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- 8+2 U.3 NVMe drives (box 3 and 4) connected to system board, riser, and 1-port NVMe adapter and OCP x16 NIC adapter installed



Item	Description
------	-------------

- | | |
|--------|---|
| Orange | Slimline cable from box 3 drive backplane port 1 and port 4 to port 2B on secondary riser |
| Blue | Slimline cable from box 3 drive backplane port 2 to port 1B on secondary riser |
| Gold | Slimline cable from box 3 drive backplane port 3 to port 2A on system board |
| Pink | Slimline cable from box 4 drive backplane port 1 to port 7A on 1-port NVMe adapter |
| Green | OCP x16 cable from OCP x16 connector to port 6A on system board |

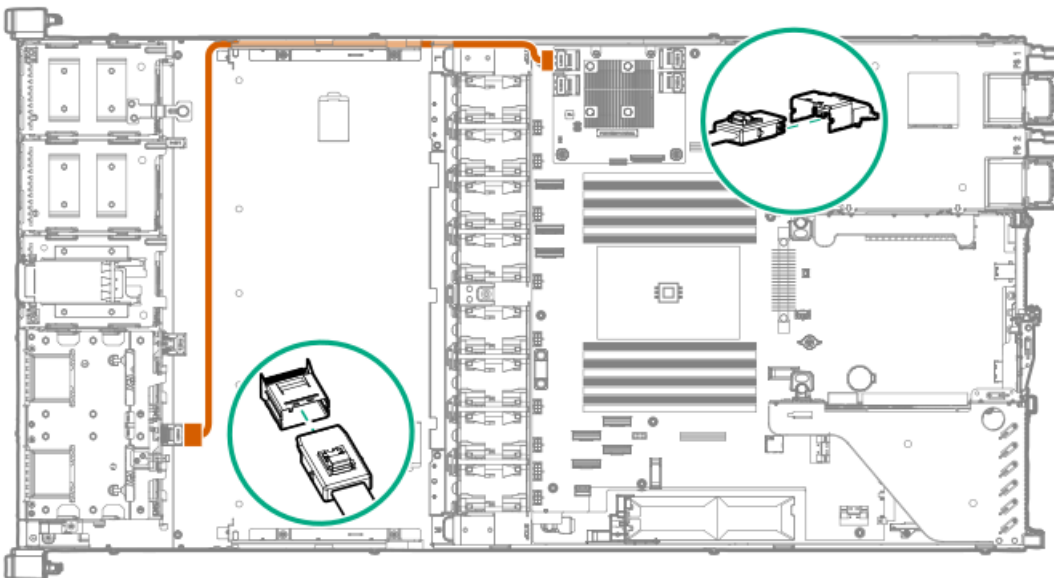
- Power cabling

Cable routing: 2SFF/2+2SFF SAS/SATA/uFF drives

- 2SFF SAS/SATA/uFF drives installed in outer cage (box 2) and connected to system board



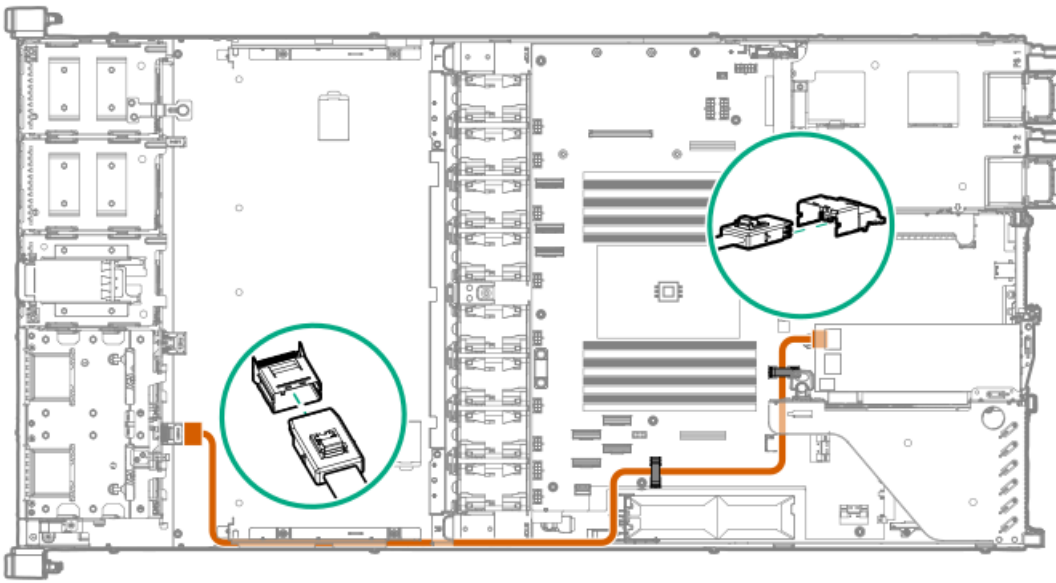
- 2SFF SAS/SATA/uFF drives installed in outer cage (box 2) and connected to type-a storage controller



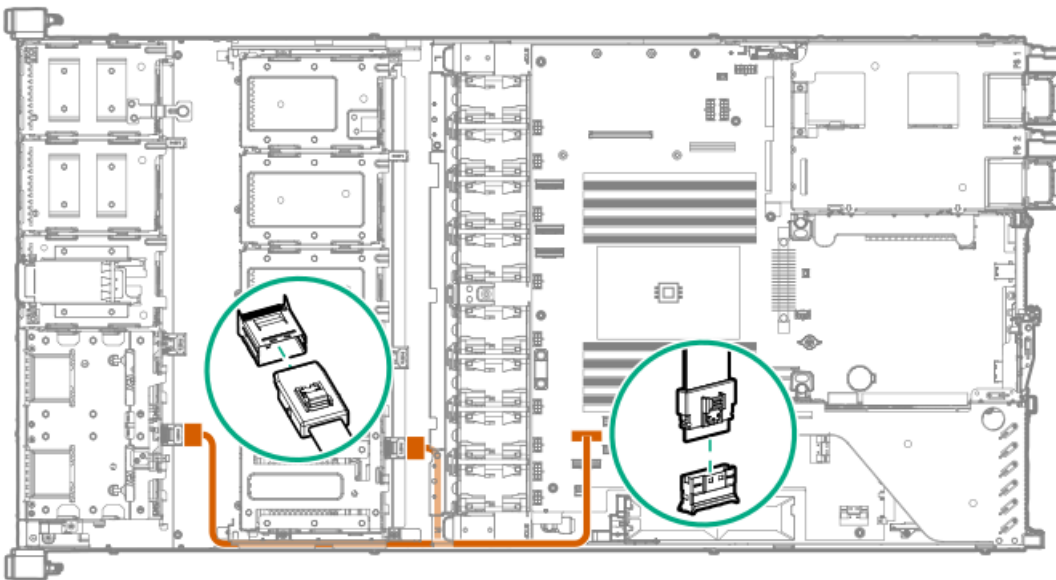
- 2SFF SAS/SATA/uFF drives installed in outer cage (box 2) and connected to type-p storage controller

This illustration shows the cabling for type-p storage controller installed in slot 2. The cabling for type-p storage controller installed in slot 3 is similar.





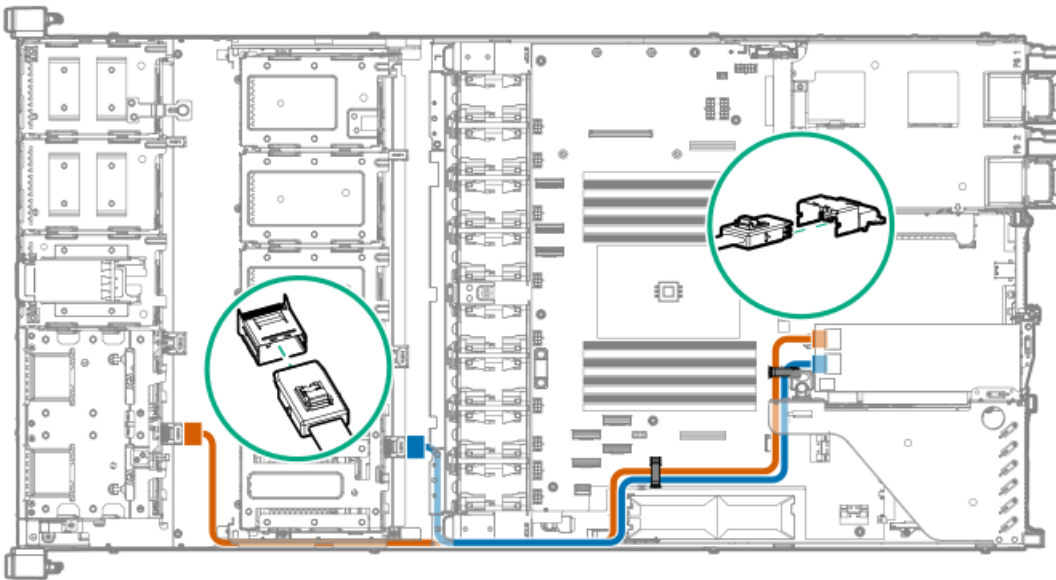
- 2+2SFF SAS/SATA/uFF drives installed in outer and inner cages (box 2 and 4) and connected to system board



- 2+2SFF SAS/SATA drives installed in outer and inner cages (box 2 and 4) and connected to type-p storage controller

This illustration shows the cabling for type-p storage controller installed in slot 2. The cabling for type-p storage controller installed in slot 3 is similar.



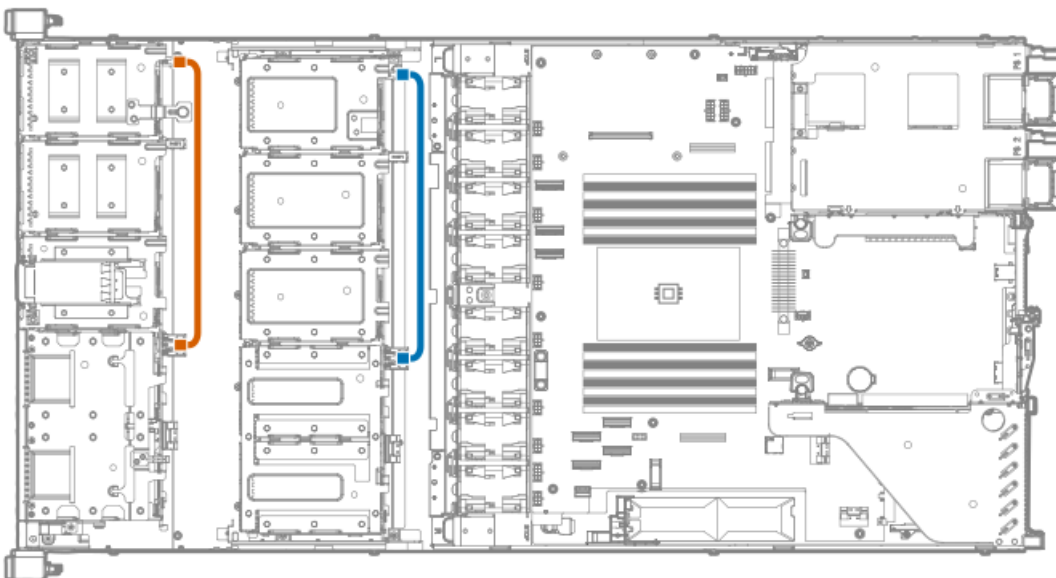


Cable Description
color

Orange Mini-SAS cable from box 2 drive backplane port 1 to type-p controller port 1

Blue Mini-SAS cable from box 4 drive backplane port 1 to type-p controller port 2

- Power cabling



Cable Description
color

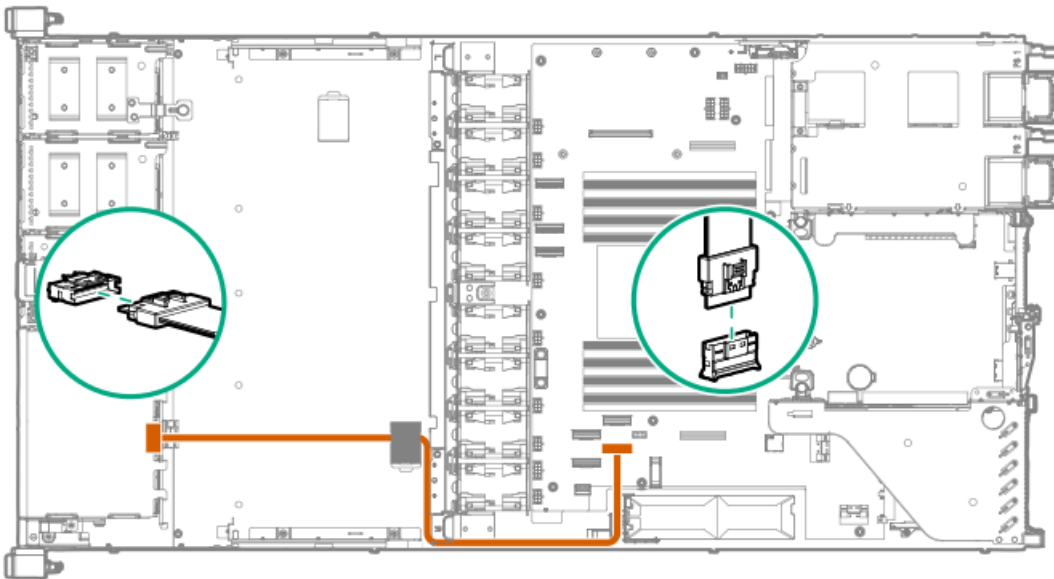
Orange Power cable from box 1 8SFF drive backplane to box 2 2SFF drive backplane

Blue Power cable from box 3 8SFF drive backplane to box 4 2SFF drive backplane

Cable routing: 2SFF NVMe/2+2SFF NVMe drives

Cable routing: 2SFF U.2/U.3 NVMe/2+2SFF U.3 NVMe drives

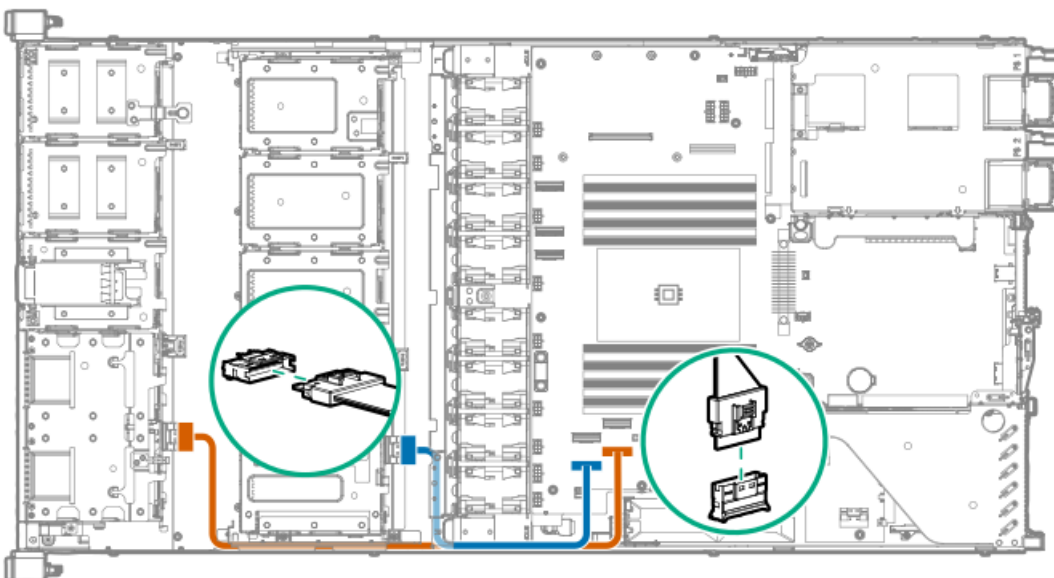
- 2SFF U.2/U.3 NVMe drives installed in outer cage (box 2) and connected to system board (For 8SFF + 2NVMe configuration)



- 2+2SFF U.3 NVMe drives installed in outer and inner cages (box 2 and 4) and connected to system board (For 16SFF SAS/SATA + 4NVMe configuration)

NOTE:

For 20SFF U.3 NVMe configuration, the 2SFF U.3 NVMe drives installed in inner cage (box 4) are connected to 1-port NVMe adapter.



Cable color	Description
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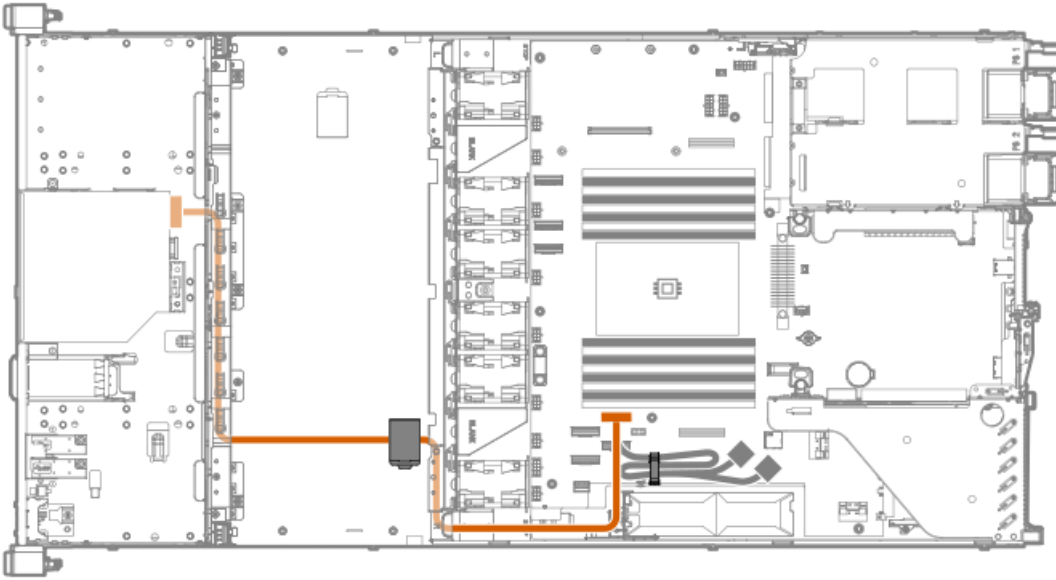
Orange	Slimline SAS cable from box 2 drive backplane port 1 to system board port 4A
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Blue	Slimline SAS cable from box 4 drive backplane port 1 to system board port 5A
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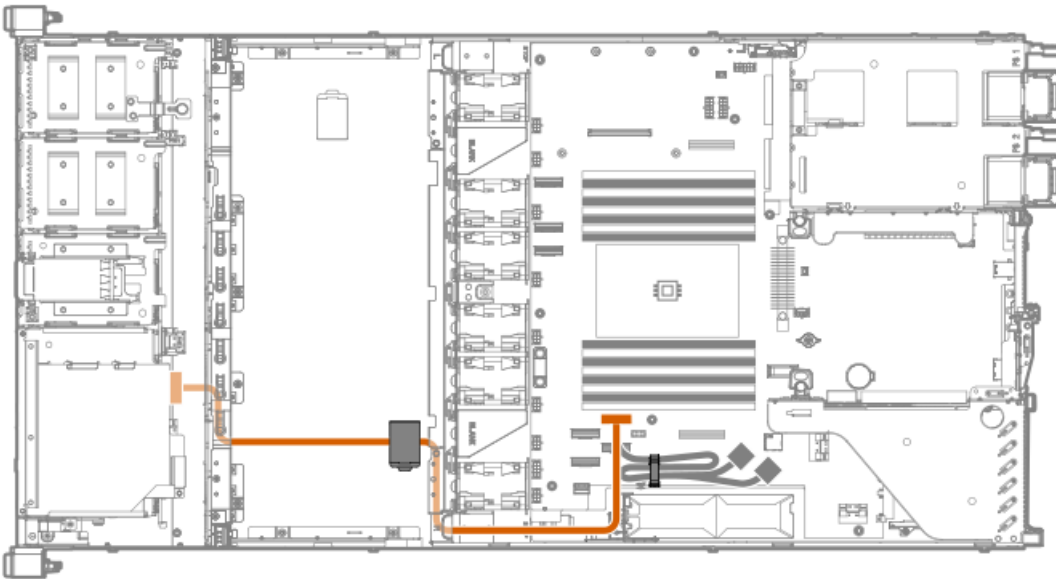
- Power cabling

Cable routing: Optical drive

- LFF



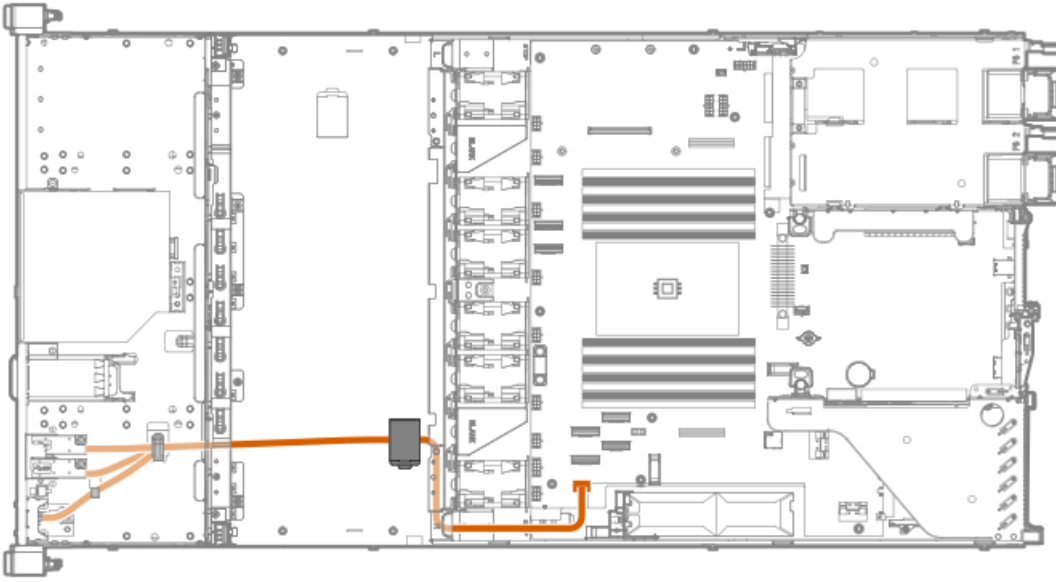
- SFF



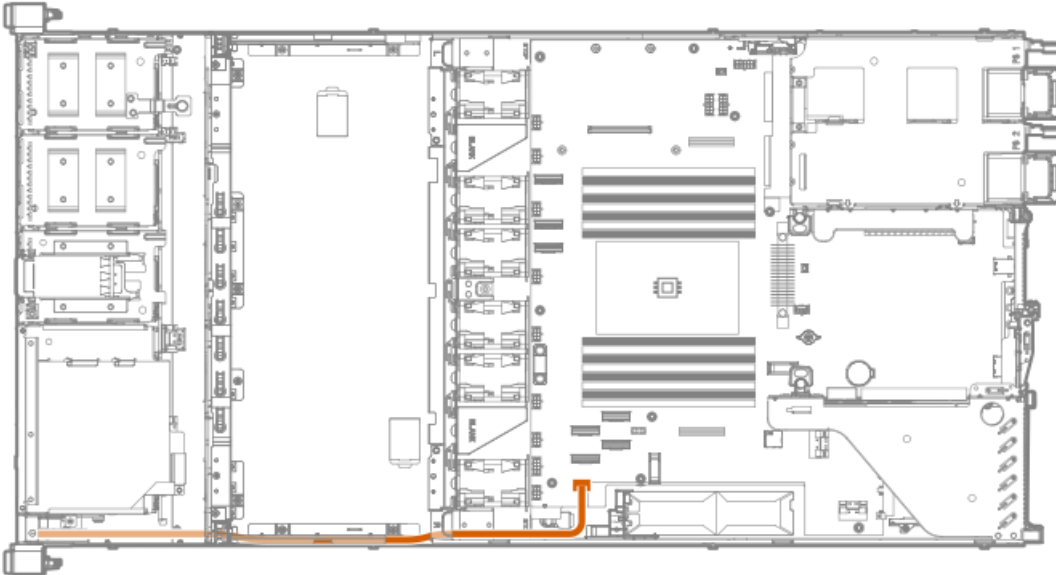
Cable routing: Front I/O

- LFF



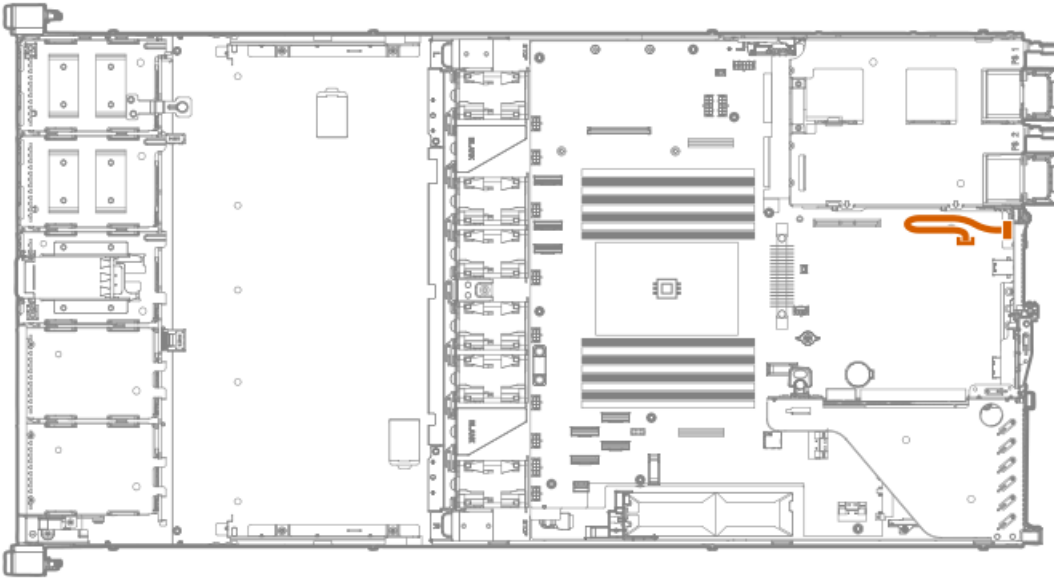


- SFF

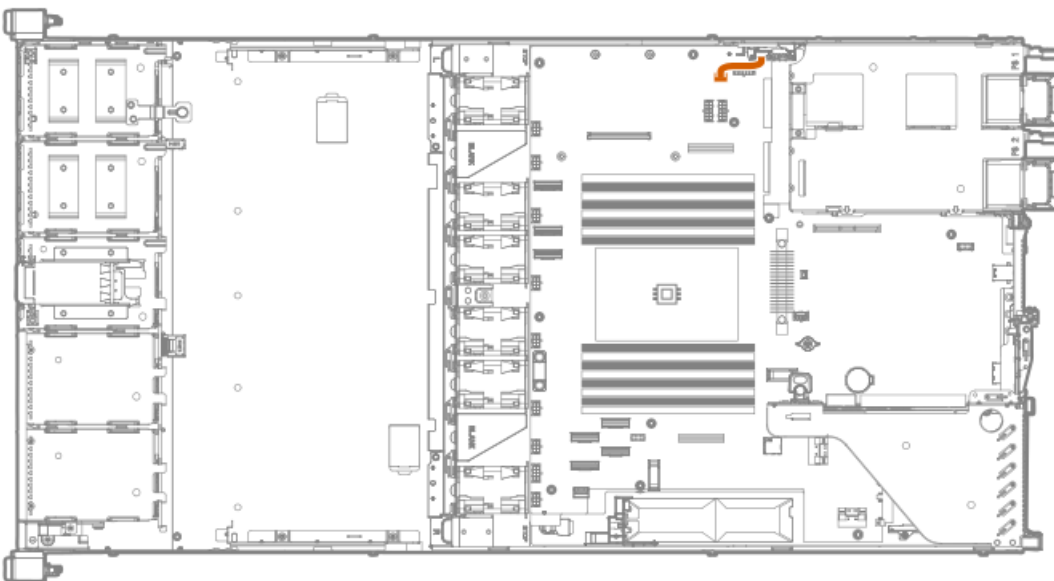


Cable routing: Serial port





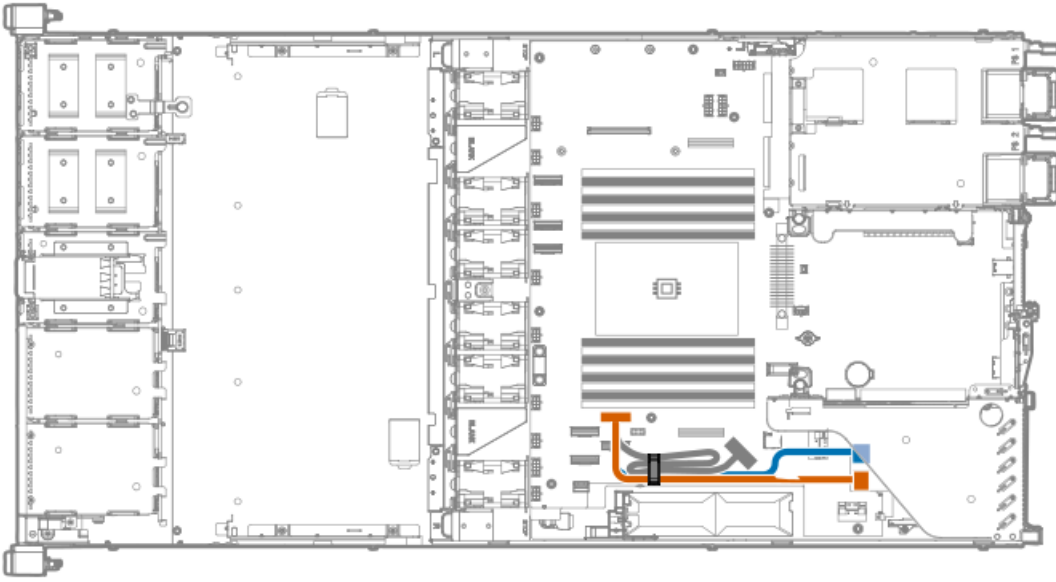
Cable routing: Chassis intrusion detection switch



Cable routing: M.2 SATA SSD add-in card

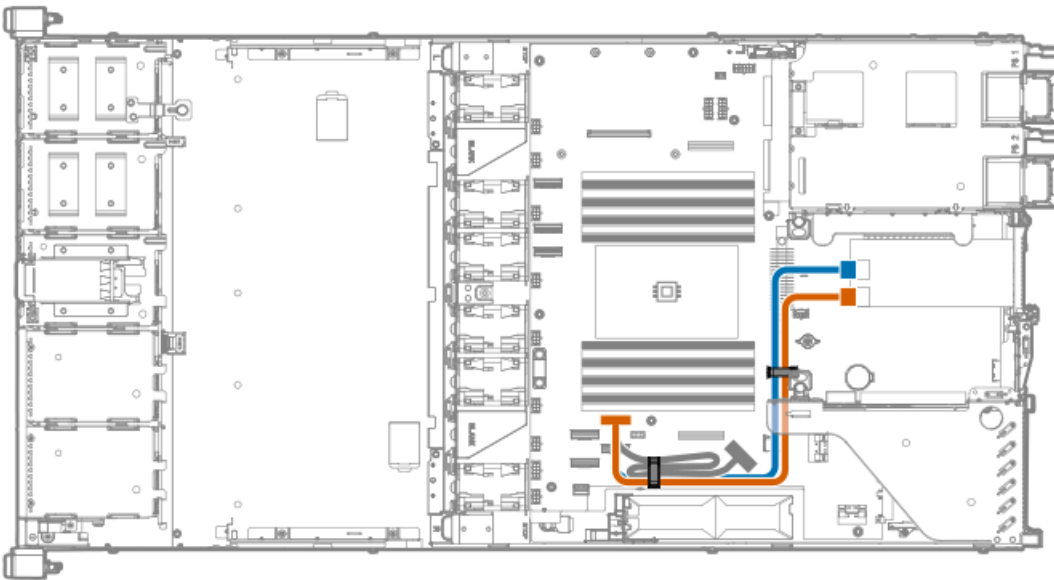
M.2 SATA SSD add-in card cabling from the primary riser





Item	Description
Orange	M.2 SATA SSD 1 cable
Blue	M.2 SATA SSD 2 cable

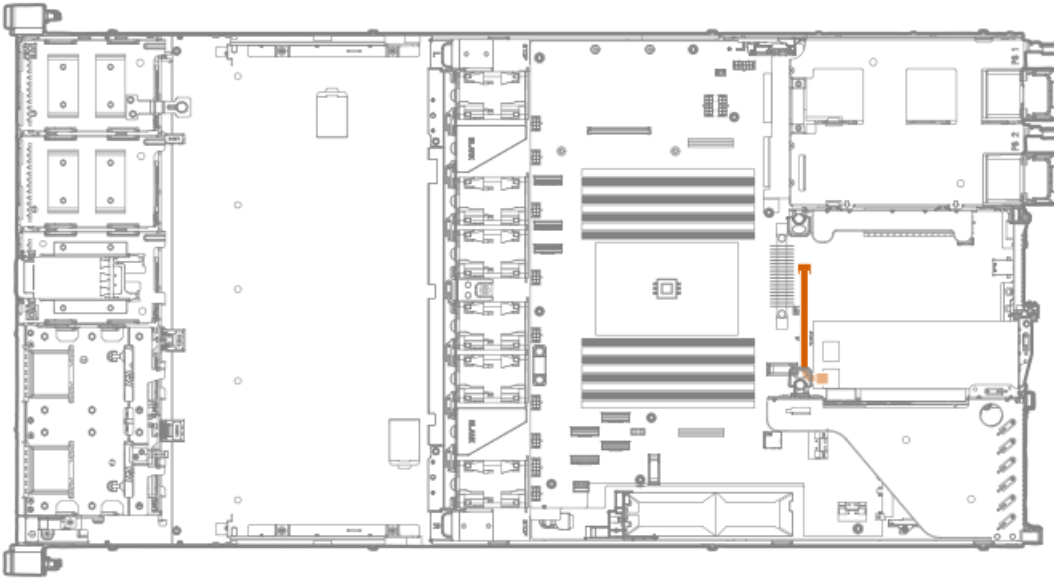
M.2 SATA SSD add-in card cabling from the secondary riser



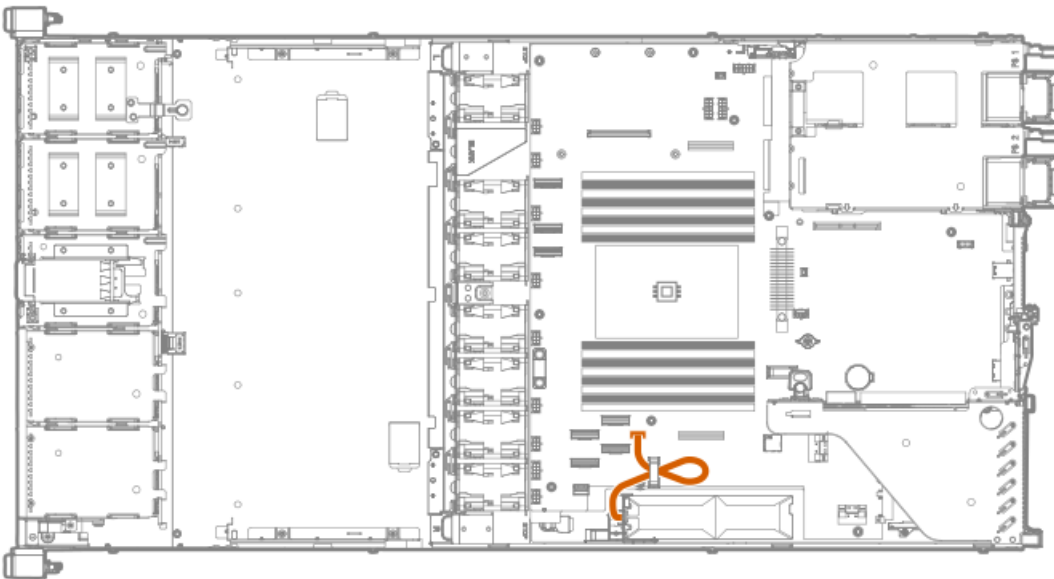
Item	Description
Orange	M.2 SATA SSD 1 cable
Blue	M.2 SATA SSD 2 cable

Cable routing: Controller backup power cable

This illustration shows the cabling for type-p controller installed in slot 2. The cabling for type-p controller installed in slot 3 is similar.

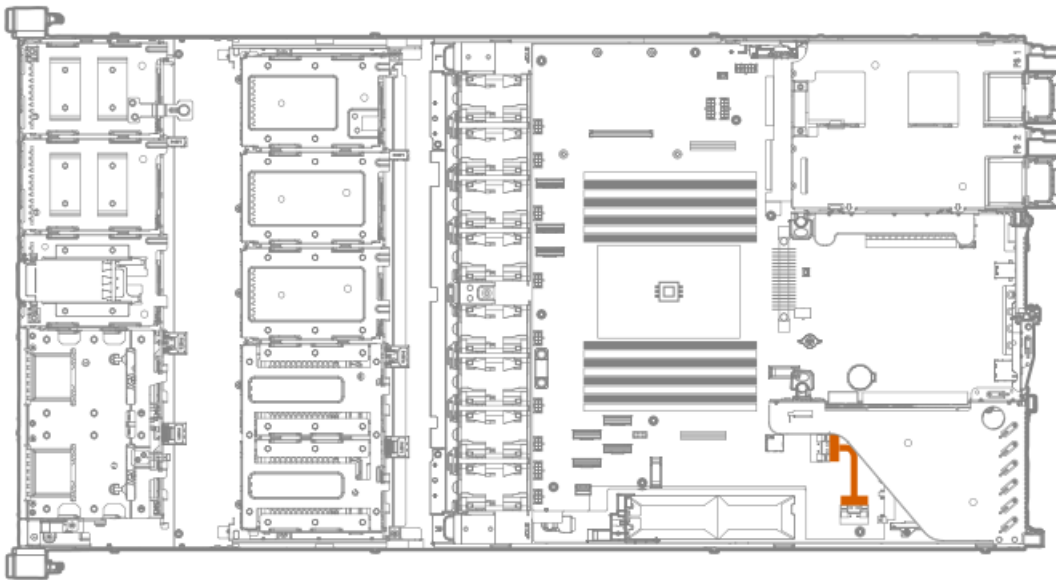


Cable routing: Energy pack



Cable routing: OCP x16 NIC adapter





Specifications

This chapter lists the technical specifications for the server, including:

- [Environmental specifications](#)
- [Mechanical specifications](#)
- [Power supply specifications](#)

Environmental specifications

Specifications	Value
Temperature range*	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
Relative humidity (noncondensing)	—
Operating	8% to 90% - Relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing
Nonoperating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing
Altitude	—
Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Standard operating support

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.

System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).

Extended ambient operating support

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the [Hewlett Packard Enterprise website](#).

40°C to 45°C (104°F to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed on the [Hewlett Packard Enterprise website](#).

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

Mechanical specifications

Specification	Value
Height	4.28 cm (1.69 in)
Depth	
– Short Chassis (two cages)	82.62 cm (32.52 in)
– Long Chassis (three cages)	100.88 cm (39.71 in)
Width	43.46 cm (17.11 in)
Weight (approximate range)	
– Short Chassis (two cages)	17.0 kg to 26.0 kg (37.48 lb to 57.32 lb)
– Long Chassis (three cages)	20.0 kg to 32.0 kg (44.09 lb to 70.55 lb)

Power supply specifications

Depending on the installed options and the regional location where the server was purchased, the server can be configured with one of the following power supplies:

- [HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply](#)
- [HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	5.8 A at 100 VAC 2.8 A at 200 VAC 2.4 A at 240 VDC for China only
Maximum rated input power	557 W at 100 VAC 539 W at 200 VAC 537 W at 240 VDC for China only
BTUs per hour	1902 at 100 VAC 1840 at 200 VAC 1832 at 240 VDC for China only
Power supply output	—
Rated steady-state power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China only
Maximum peak power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China only

HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 127 VAC 200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC

Specification	Value
Rated input current	9.1 A at 100 VAC
	4.4 A at 200 VAC
	3.6 A at 240 VDC for China only
Maximum rated input power	899 W at 100 VAC
	867 W at 200 VAC
	864 W at 240 VDC for China only
BTUs per hour	3067 at 100 VAC
	2958 at 200 VAC
	2949 at 240 VAC for China only
Power supply output	—
Rated steady-state power	800 W at 100 VAC to 127 VAC input
	800 W at 100 VAC to 240 VAC input
	800 W at 240 VDC input for China only
Maximum peak power	800 W at 100 VAC to 127 VAC input
	800 W at 100 VAC to 240 VAC input
	800 W at 240 VDC input for China only

HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC
	240 VDC for China only
Rated input frequency	50 Hz to 60 Hz
	Not applicable to 240 VDC
Rated input current	4.3 A at 200 VAC
	3.6 A at 240 VAC
	3.6 A at 240 VDC for China only
Maximum rated input power	851 W at 200 VAC
	848 W at 240 VAC
	848 W at 240 VDC for China only
BTUs per hour	2905 at 200 VAC
	2893 at 240 VAC
	2893 at 240 VDC for China only
Power supply output	—

Specification	Value
Rated steady-state power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China only
Maximum peak power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China only

HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 277 VAC 380 VDC
Rated input frequency	50 Hz to 60 Hz
Rated input current	4.4 A at 200 VAC 3.8 A at 230 VAC 2.3 A at 380 VDC
Maximum rated input power	869 W at 200 VAC 865 W at 230 VAC 861 W at 277 VAC 863 W at 380 VDC
BTUs per hour	2964 at 200 VAC 2951 at 230 VAC 2936 at 277 VAC 2943 at 380 VDC
Power supply output	—
Rated steady-state power	800 W at 200 VAC to 277 VAC input
Maximum peak power	800 W at 200 VAC to 277 VAC input

HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	-40 VDC to -72 VDC -48 VDC nominal input

Specification	Value
Rated input current	22.1 A at -40 VDC input
	18.2 A at -48 VDC input, nominal input
	12.0 A at -72 VDC input
Rated input power	874 W at -40 VDC input
	865 W at -48 VDC input, nominal input
	854 W at -72 VDC input
Rated input power (BTUs per hour)	2983 at -40 VDC input
	2951 at -48 VDC input, nominal input
	2912 at -72 VDC input
Power supply output	—
Rated steady-state power	800 W at -40 VDC to -72 VDC
Maximum peak power	800 W at -40 VDC to -72 VDC
Maximum peak power	800 W at -40 VDC to -72 VDC input

- ⚠ WARNING:** To reduce the risk of electric shock or energy hazards:
- This equipment must be installed by trained service personnel.
 - Connect the equipment to a reliably grounded secondary circuit source. A secondary circuit has no direct connection to a primary circuit and derives its power from a transformer, converter, or equivalent isolation device.
 - The branch circuit overcurrent protection must be rated 27 A.

⚠ CAUTION: This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment.

If this connection is made, all of the following must be met:

- This equipment must be connected directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
- This equipment must be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system must be earthed elsewhere.
- The DC supply source is to be located within the same premises as the equipment.
- Switching or disconnecting devices must not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.

HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC
	240 VDC for China only

Specification	Value
Rated input frequency	50 Hz to 60 Hz
Rated input current	8.7 A at 200 VAC 7.5 A at 230 VAC
Maximum rated input power	1734 W at 200 VAC 1727 W at 230 VAC
BTUs per hour	5918 at 200 VAC 5891 at 230 VAC
Power supply output	—
Rated steady-state power	1600 W at 200 VAC to 240 VAC input 1600 W at 240 VDC input
Maximum peak power	2200 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input

Websites

General websites

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

<https://www.hpe.com/storage/spock>

Storage white papers and analyst reports

<https://www.hpe.com/storage/whitepapers>

For additional websites, see [Support and other resources](#).

Product websites

HPE ProLiant DL325 Gen10 Plus Server

<https://www.hpe.com/servers/dl325-gen10plus>

HPE ProLiant DL325 Gen10 Plus Server user documents

<https://www.hpe.com/info/DL325Gen10Plus-docs>

Support and other resources

- [Accessing Hewlett Packard Enterprise Support](#)
- [Accessing updates](#)
- [Remote support](#)
- [Warranty information](#)
- [Regulatory information](#)
- [Documentation feedback](#)

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

<https://www.hpe.com/info/assistance>

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

<https://www.hpe.com/support/hpesc>

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:

Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

Hewlett Packard Enterprise Support Center: Software downloads

<https://www.hpe.com/support/downloads>

My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:

<https://www.hpe.com/support/e-updates>

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center More Information on Access to Support Materials page:

<https://www.hpe.com/support/AccessToSupportMaterials>

i IMPORTANT:

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

HPE Get Connected

<https://www.hpe.com/services/getconnected>

HPE Pointnext Tech Care

<https://www.hpe.com/services/techcare>

HPE Complete Care

<https://www.hpe.com/services/completecure>

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

<https://www.hpe.com/support/ProLiantServers-Warranties>

HPE Enterprise and Cloudline Servers

<https://www.hpe.com/support/EnterpriseServers-Warranties>

HPE Storage Products

<https://www.hpe.com/support/Storage-Warranties>

HPE Networking Products

<https://www.hpe.com/support/Networking-Warranties>

Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

<https://www.hpe.com/info/reach>

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

<https://www.hpe.com/info/ecodata>

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

<https://www.hpe.com/info/environment>

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, use the Feedback button and icons (located at the bottom of an opened document) on the Hewlett Packard Enterprise Support Center portal (<https://www.hpe.com/support/hpesc>) to send any errors, suggestions, or comments. All document information is captured by the process.

